

American Gas *Association* MONTHLY

Nutrition—Defense Keystone

Planning Emergency Gas Sales

A Long-Term Research Program

Commercial Gas Opportunities

Magic Eyes for Better Baking

December

1941

VOLUME XXIII NUMBER 12

"Confidentially — He . . ."



"JIM thinks he's the one who picked out our new range— The genius who discovered how efficient and economical Gas is— How much a modern Gas range could save us on food and fuel bills— Bless him! I knew at the start

we'd get a Gas range because I wanted the speed . . . the instant high heat of Gas . . . the flexibility of Gas that furnishes any degree of heat I need— Because my old Gas range gave so many years of perfect service I had no intention of buying any other kind— confidentially!"

"Confidentially — She . . ."



"JEAN needs a man's advice about important things like this new range we bought! Sure I knew modern Gas ranges were swell looking . . . had dozens of streamlined features— But gosh! there are bigger things to think about these days!

What sold me was the fact that a Gas range will last for years . . . won't need costly, hard-to-get replacements . . . That Gas service is dependable—even in these uncertain times! Of course our new Gas range has improved Jean's cooking confidentially!"



THIS SEAL certifies that the Gas range carrying it meets all the 22 super-performance standards established by the Gas industry.

Today 24 of America's leading range manufacturers offer CP (certified performance) models. Look for the CP seal when you buy.


★ ★ ★

For Defense . . . Buy United States Savings Bonds and Stamps



IN THE INTERESTS OF NATIONAL DEFENSE the variety of Gas range models has been reduced, but these models have been selected to bring you the best combination of the most important modern features. If you are not planning to buy a new range now, your present gas range should be adjusted or repaired, if necessary, to render the most efficient service. Consult your Gas Appliance Dealer or Gas Company.

AMERICAN GAS ASSOCIATION

GAS — 
THE WONDER FUEL FOR COOKING

LET GAS DO THE BIG JOBS—COOKING • WATER HEATING • REFRIGERATION • HOUSE HEATING



CONTENTS FOR DECEMBER 1941



This issue has a definite nutrition flavor. Not only is the leading article devoted to the national program being vigorously pursued by government authorities with the aid of such natural set-ups as the utility home service organizations, but a one-page feature shows striking window displays revolving around this theme and a two-page spread presents a stand-out nutrition advertising program. It might have been the influence of Thanksgiving dinners but we prefer to think that the MONTHLY is in step with a marked trend toward better food preparation and understanding of proper diets. . . . Experience is a fine teacher and when it comes to sales promotion practice during wartime, Mr. Paige has some vivid reminders from World War I to aid in establishing a progressive company policy during the present emergency. It's a lesson of value to any management. . . . Still plugging for adequate house heating installation standards, the Metropolitan Heating and Air Conditioning Council, through spokesman H. P. Morehouse, offers four new tools to control wayward practice. . . . Now's the time for industry to prepare, through research, for the post-war period says F. Marion Banks in a thorough-going analysis of the new Gas Institute program.

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Northwestern Holder of Citizens Gas & Coke Utility, Indianapolis, said to be the tallest (394 feet) gas holder in the country. Photographed by Tinsel Miller, utility employee, this picture is the December winner in the A. G. A. MONTHLY frontispiece contest.



JAMES M. BEALL, *Editor*

NUTRITION

.... An Important Keystone in National Defense

WHY are we so much disturbed about nutrition? A few years ago the idea was widely prevalent that we were a pretty well-fed people—that there was plenty of food around; better than we ever had before. We were a good bit startled when dietary surveys revealed that at least one-third of our entire population was receiving a diet which failed to come up to the standard recommended by our nutritional authorities as being adequate.

Next came the Selective Service Act and we find a very large percentage of men are being rejected. That also startled us. I will cite you one example.

A survey was recently conducted in Chicago. The city was broken down by wards and the percentage of rejections from each of the city wards was calculated. It was found that they varied from 39% in one ward to around 72% in another ward—that the ward which had 72% rejected was one of the poorest wards in the city in the tenement section and the ward which had 39% rejections was in one of the well-to-do sections.

There is no reason to think that the situation in Chicago is any different from situations existing in other large cities. We feel certain that part of that at least must have been due to the poor feeding which occurred in the poor ward. There is certainly a relationship between the economic status and the dietary adequacy of the population, but don't fool yourself into thinking that that is the only relationship because deficiency diseases exist in some very wealthy individuals.

All of this information taken together has alarmed us and very rightly so.

There is now an increasing ability on the part of physi-

By **DR. WILLIAM H. SEBRELL**
*Deputy Assistant Director, Office of
Defense Health and Welfare Services,
Washington, D. C.*



Dr. Sebrell

cians to recognize mildest cases of deficiency diseases. We formerly thought we did not have to worry about pellagra because it occurred in southern United States and was not found anywhere else and other diseases due to dietary deficiencies represented just a small number among our population. Medically, today, we recognize that that is all wrong because we now see and know that a lack of thiamin produces deficiency diseases and what causes beriberi. This results in a great many usual symptoms such as fatigue, increased anxiety, loss of appetite—things which we formerly did not know where to place in the medical picture. We also recognize today that we have in the United States every known deficiency disease to some extent but just how extensive we do not know. There is no way of telling right now.

We do know from dietary surveys that people are not getting the diets they should. Surveys conducted indicate furthermore that the population does not know what it should know about nutrition. A survey was recently conducted in New York City among housewives asking them if they knew what vitamins were and what they were for. More than ninety per cent did not know about vitamins or what they are for. This question of a deficient diet is a serious one.

We know further that in spite of the apparent improvement in the American diet that in some respects it is a poorer diet than it was one hundred years ago. We have actually slipped backward in many respects and that is not difficult to determine when you examine our present American diet. We have greatly increased our consumption of fine sugar, white flour and refined fat. Today in our American diet we get one-half of the calories or more from those three classes of foods which means that half of them

have to supply all of these minerals and vitamins which I am talking about.

In the old days we had coarser ground flour; we had less highly refined sugar and we substituted other sweets for it or other foods because the total sugar consumption did not approach what it does today and the fats were not so highly refined. So our diet today in some respects is definitely worse than it was one hundred years ago.

Recognizing this situation, what have we done about it and what do we plan to do about it? A great deal has been done already but not nearly enough. We plan to do more. For many years the Department of Agriculture and the various other bureaus have done a good job of nutrition education in rural populations. They are restricted by law to these rural populations; they don't reach the large cities and they don't reach the towns. They deal with a specialized group of people. We need to reach these other groups; therefore, we have to expand into other fields.

The various State Health Departments have in recent years added nutritionists to their staffs. Health officers now recognize nutrition as being a large part of a well-rounded health campaign. They know that they cannot maintain the highest degree of health in their population unless they are securing an adequate diet and therefore they are trying to correct those conditions.

The National Nutritional Conference showed us the very extensive interest in the problem. It gave us a set of recommendations on which to work and we are in process of trying to carry out the recommendations that were made by that Nutritional Conference to the President and work out his program from those recommendations.

Nutrition Yardstick

Following the Nutritional Conference, we had a meeting of scientists in which we asked them to tell us what constituted an adequate diet and what the American people needed in terms of nutritive elements. The National Research Council Committee gave us what we call a yardstick of nutrition—the best information we could get. That was then translated into terms of diets and foodstuffs and calculated in menus at various levels of income, showing for the smallest amount of money how you could obtain an adequate diet and how you could obtain a little more liberal diet if you had more money to spend on food.

Having gotten our yardstick the next thing to do was to move. State Nutrition Committees have now been set up in every state in the Union and under those State Nutrition Committees local committees are in process of being set up. There are already several hundred of them—probably sixty per cent of all

the counties in the United States now have a Nutrition Committee. We are trying to head those committees up in the Defense Council so that they will be enabled to utilize nutrition aids and volunteer service in the community, so as to get this program across just as they are getting across all other defense activities that communities lack.

We are planning to train people. Volunteers wishing to become nutrition aids will be able to take a course of twenty hours which will entitle them to give volunteer service, to wear a uniform and to participate in the community defense activity.

We then undertook to do something about the vitamin situation directly by recommending the enrichment of flour and bread with certain vitamins and minerals. We went to the milling industry and to the baking industry and requested their cooperation. They came through handsomely and supplied this material on a nation-wide scale and we are engaged in pushing the educational campaign now to get enriched flour and bread into every household. It was a beautiful demonstration of the cooperation of science, government and industry which is essential to success in this field.

The scientists represented by the National Research Council told us what to do and made their recommendations. Industry solved the problem of



Home service directors of the Gas Service Company and affiliated companies in Missouri, Kansas, Oklahoma and Nebraska at a meeting in Kansas City, Mo., November 5, with national experts to map out the national defense programs based on the use of more nutritious and more economical foods. Among those who participated were, left to right (seated): Doris Heidrick, Wichita; Colleen Fowler, Kansas City, Mo.; Ruth Soule, Brooklyn, chairman of A. G. A. nutrition subcommittee; Jessie McQueen, home service counsellor, American Gas Association; Dr. Martha Pittman, head of food economics department, Kansas State College, and member, Kansas state nutrition committee; Mrs. Vesta Odell, home management supervisor, Farm Security Administration, and member, Missouri state nutrition committee; Mildred R. Clark, Tulsa, Okla.; Tessie Agan, Kansas State College; and Betty Boyle, Kansas City, Kansas

getting materials in their products and into the stores and the government has come along with the educational and promotional work in a campaign backing these recommendations as being essential.

Nutrition problems are larger than they have ever been before. The prospect before us is that we must feed Great Britain now as well as the United States and when peace comes and the warring nations of Europe sit down to a barren peace table, the statement of Secretary Wickard, "that food will not only win the war but write the peace," will become obvious. We are faced with the prospect of having to feed most of Europe. That must be done without any dislocation in our own economy or in our own supply of food-stuffs. That means planning now if we are going to be ready to meet that situation when it develops.

Importance of Food in War

The question of the importance of food in this war is a very great one. It is as important as planes, guns, or ammunition. This war, at least, as it relates to Britain and Germany today is a war of blockade and counter-blockade in which the food supplies may be the deciding factor. Germany recognized that long ago and she laid in supplies of various things including vitamins by the tons before the war began.

The importance of the proper feeding of military forces everyone recognizes because it is obvious. It is also obvious that to support a large army today the feeding of the civilian population is equally important. War no longer is a war between armies alone but between entire populations. We know that a lack of proper food will have a tremendous effect not only upon morale but upon the willingness to fight.

First, I want to compliment you upon your Home Service Departments. I think the young ladies whom you people employ conduct some of the best cooking schools that we have today. I am sure you are aware of the technical importance of proper cooking and food preparation in preserving vitamins and minerals. I do not want to go into technical details except to say that improper preparation can result in tremendous losses and destruc-

tion of nutritive food values of all kinds.

Part of our educational campaign has been on proper food preparation after you have the food. There we can save tremendous quantities of nutrients by simple education in the proper food preparation.

Let me ask, if you are not already doing that, to stress it in your campaign and have your Home Service Departments in presenting your cooking equipment try to do an educational job from that point of view. Its effect upon nutrition, its effect upon our activities will be to your advantage and I think at the same time you will realize you are doing a patriotic job.

We must educate the public and you can help us do it. The public is woefully ignorant in regard to the facts of nutrition.

We see our job as much more than just education. Education is a large part of it. That has been going on for years, but we think we have got to do a lot more than just education. We know the problem is largely an economic one. If we all had plenty of money and there was plenty of food available, we would not have very many deficiency diseases. When people are restricted in income, or do not know how to spend their money wisely, we feel we have got to make the foods available in addition to doing an educational job. That means a lot of things such as the extension of school lunch programs, the extension of food stamp plans and the furtherance of subsidized milk programs—various things which will be applicable in each community which we hope the communities themselves will discover and apply.

Women in Civilian Defense Chose Gas for Cookery Schools

A LARGE group of Women in Civilian Defense rise to add their testimony to the dependability and speed of gas as a cooking fuel by their choice of gas for use in defense cookery schools.

Several times each week groups of Massachusetts women who make up the Massachusetts Women in Defense Mobile Canteen Unit, meet in the test kitchen of the Boston Consolidated Gas Company to be instructed in quick, healthful, quantity cookery.

In case of emergency, it is this unit which will take over the feeding of people evacuated from bombed or invaded areas. They must prepare food in great quantity, at utmost speed and transport it hot and tasty to large groups.

Following the recent \$5,000,000 fire in Charlestown, Mass., this group of workers received their first practical assignment by being asked to feed firemen. For three days and two nights the women worked in 12-hour shifts, taking hot foods every three hours to a total of 1700 fire-fighters.

Food is transported from the base kitchen in large vans called "convoys," which are equipped as emergency kitchens. Hot foods are placed in thermos cans which, if not opened, will keep food at original temperature for forty-eight hours. Sandwiches, wrapped in wax paper at the base kitchen, are placed in cabinets in the convoy and kept moist for several hours. When the convoy arrives, the back of the van is opened up and the vehicle becomes a well-



Captain Ruth Baker of the Massachusetts unit of Women in Civilian Defense serving hot food from a mobile canteen unit during the Charlestown fire in September

equipped serving kitchen from which the food is dispensed.

Miss Nathalie Hays Hammond, daughter of John Hays Hammond, was the originator of the Mobile Canteen Unit idea. In Massachusetts the unit has 1500 instructors and, since its organization 18 months ago, has trained 5,000 women. Training consists of military drill, preparing of foods at the base kitchen and lecture courses on nutrition, air-raid precaution, chemical warfare and first aid.

Who's Who . . . Among Newly-Elected American Gas Association Officers

George S. Hawley PRESIDENT

George S. Hawley is president of The Bridgeport Gas Light Company, Bridgeport, Connecticut.

Mr. Hawley was born and raised in Connecticut. In his early business life he was the official court stenographer of the Superior Courts for Fairfield County. He studied law and was admitted to the Bar in 1915, after which he practiced law for a short time. Later he was elected vice-president and general counsel of The Bridgeport Gas Light Company, and has been its president since 1928. He has been identified with many civic and philanthropic projects of Bridgeport and the State.

He is president of the Connecticut Gas Association and the Bridgeport Manufacturers Association. He is president of the Society of Gas Lighting and was recently president of the New England Gas Association and the Guild of Gas Managers of New England.

Mr. Hawley is a vice-president of the United States Chamber of Commerce and a director of the following organizations: Connecticut and Bridgeport Chambers of Commerce, American Gas Association, Bridgeport Hydraulic Co., Black Rock Bank & Trust Co., Bridgeport People's Savings Bank, and Bridgeport-City Trust Company. He is a member of the American, Connecticut and Bridgeport Bar Associations and the Connecticut Manufacturers Association, and of various clubs and engineering associations.

Arthur F. Bridge VICE-PRESIDENT

Arthur F. Bridge is vice-president and general manager of the Southern Counties Gas Company of California, with headquarters in Los Angeles, California.

Born on April 2, 1891, in San Francisco, Mr. Bridge was graduated from the University of California at Berkeley with a B.S. in Electrical Engineering in 1912, and received his M.S. in 1913. He

became associated with the California Railroad Commission in 1913 as assistant engineer, and remained in that post until 1917, when he joined the United States Army as a first lieutenant in the engineer corps.

His record during the World War includes service overseas from July, 1918, through March, 1919. He became a captain in the engineer corps in September, 1918, and was named assistant chief engineer of the Belgian Mission of the American Commission to negotiate Peace and War Damages in Allied Countries in January, 1919.

He became associated with the Southern Counties Gas Company in 1919 as rate engineer, became executive engineer in 1926, and vice-president and director in 1928. He was elected to his present position as vice-president and general manager in 1939.

He has been a director of the American Gas Association for several years, and a member of the Laboratories Managing Committee since 1931. He also has been a member of the Managing Committee of the Natural Gas Section for several years.



George S. Hawley
President



A. F. Bridge
Vice-President



Ernest R. Acker
Treasurer

Ernest Reynolds Acker

TREASURER

Mr. Acker is president and general manager of the Central Hudson Gas and Electric Corp., Poughkeepsie, N. Y.

He was graduated from Cornell University, class of 1917, and attended Harvard University, Graduate School of Business Administration, in 1927.

He served overseas as First Lieutenant, United States Chemical Warfare Service, during the World War.

After a short period of time with the Yonkers Electric Light & Power Co., Yonkers, N. Y., and the Bethlehem Steel Co., Bethlehem, Pa., Mr. Acker became identified with the Central Hudson Gas & Electric Corporation in 1919 as assistant engineer in the general operating department. He was made general superintendent of the Kingston Gas & Electric Company—at that time a unit of the Central Hudson System—in 1921 and held that position until he was appointed general commercial manager of the Cen-



Walter C. Beckjord
Director



C. M. Cohn
Director



Watson E. Derwent
Director



R. L. Fletcher
Director



R. H. Hargrove
Director



D. A. Hulcy
Director



L. L. Dyer
Chairman, Accounting Section



George F. B. Owens
Chairman, Ind. & Com. Gas Section



John A. Robertshaw
Chairman, Manufacturers' Section



J. French Robinson
Chairman, Natural Gas Section



E. J. Boyer
Chairman, Residential Section



Harold L. Gaidry
Chairman, Technical Section

tral Hudson Gas & Electric Corporation in 1925. In 1932 Mr. Acker became president and general manager of the company, succeeding the late Thaddeus R. Beal.

Mr. Acker has served as vice-chairman of the Commercial Section of the American Gas Association in 1929, chairman of the section in 1930 and member of the advisory council, 1931. In 1936 he was president of the Empire State Gas & Electric Association. He is a member of the Operating Committee of the Edison Electric Institute.

L. L. Dyer

CHAIRMAN, ACCOUNTING SECTION

L. L. Dyer is comptroller of the Lone Star Gas Corporation and subsidiary companies with headquarters in Dallas, Texas.

Mr. Dyer's college education consisted of extension courses completed after entering business. He was employed in 1909 by the St. L. & S. F. Railway Company as a timekeeper and was later promoted to chief accountant in the general superintendent's office, which position he held until 1914, at which time he made a specialty of railroad stores and material accounting and assisted in the installation of an accounting system for the stores department of the St. L. & S. F. Railway system.

During 1916 and 1917, he was engaged under special contract with the T. & P. Railway Company and the I. & G. N. Railway Company to install material accounting systems in their stores departments and also to assist in the organization and installation of accounting systems for reclamation plants which were being installed at that time. During the World War, he was employed as chief clerk to the vice-president in charge of stores and materials for the Chester Ship Building Company at Chester, Pa.

Mr. Dyer joined the Lone Star Gas Company in August, 1919, for the purpose of installing a material accounting system for the company. About a year later, he was appointed auditor of disbursements and in 1924 was placed in charge of the accounting department. In 1934, he was named comptroller of Lone Star Gas Corporation and subsidiary companies.

George F. B. Owens

CHAIRMAN, INDUSTRIAL & COMMERCIAL GAS SECTION

George F. B. Owens is assistant vice-president of The Brooklyn Union Gas Company, Brooklyn, N. Y.

Mr. Owens entered the United States Naval Academy in May, 1917, and in his last year transferred to the Massachusetts Institute of Technology where he specialized in Electrical Engineering and received a Master of Science and Bachelor Degree in 1922. Immediately thereafter he joined the industrial sales department of the General Electric Company and later became sales engineer for the Dravo-Doyle Company of Pittsburgh, Pa.

He became affiliated with the gas industry in 1928 when he was appointed assistant superintendent of the Everett plant of the Boston Consolidated Gas Company. In 1930, he entered the New Business Department of The Brooklyn Union Gas Company as a senior industrial engineer, and since that time he has been appointed successively domestic sales manager, new business manager and assistant vice-president.

John A. Robertshaw

CHAIRMAN, MANUFACTURERS' SECTION

John A. Robertshaw is president of the Robertshaw Thermostat Company.

He was born March 22, 1894, at Pittsburgh, Pennsylvania. He left school in 1911 to form with his father, Frederick W. Robertshaw, and his elder brothers, G. A. Robertshaw and L. O. Robertshaw, the Robertshaw Manufacturing Company. This company was organized for the manufacture of thermostats and other devices for the plumbing industry.

John A. Robertshaw has been continuously connected with the Robertshaw Thermostat Company since this time with the exception of one year spent in the Metallurgical Laboratory of the Carnegie Steel Company and eighteen months in the United States Navy during the World War in various capacities from seaman to ensign U.S.N.R.S.



W. Alton Jones
Director



Bruno Rahn
Director



Louis Ruthenburg
Director



Edward J. Tucker
Director



H. Carl Wolf
Director

Following the war, Mr. Robertshaw returned to the Robertshaw Thermostat Company in the sales department of the district offices of Pittsburgh, New York and Chicago. In 1924 he returned to the home office, Youngwood, Pennsylvania, as executive vice-president.

The Robertshaw Thermostat Company acquired control of Grayson Heat Control, Ltd., Lynwood, California, in 1936 and of the American Thermometer Company, St. Louis, Missouri, in 1938. Upon the acquisition of these companies, John A. Robertshaw was made president of both of them and still holds this office, as both companies maintain their separate identity. In 1940 Mr. Robertshaw was elected president of the Robertshaw Thermostat Company, succeeding his elder brother, G. A. Robertshaw.

J. French Robinson

CHAIRMAN, NATURAL GAS SECTION

J. French Robinson is president of The East Ohio Gas Company, Cleveland, Ohio.

Born at Elizabeth, West Virginia, on December 13, 1890, Mr. Robinson was graduated in 1915 from West Virginia University with a B.S.C.E. degree. In 1918, he received a M.S. Engineering degree from the same university and, in 1929, received the Doctor of Science degree from the University of Pittsburgh.

From the time of his graduation until 1918, he was employed as assistant geologist for the Baltimore & Ohio Railroad Company making investigations of oil, coal and mineral resources. He was appointed engineer for the Ford-Run Franklin Coal & Coke Corp. in 1918 and a year later became geologist for the Seneca Hill Oil Company. In 1920 he was named assistant state geologist of Pennsylvania.

Mr. Robinson served the natural gas industry from 1921 to 1933 as geologist and engineer for The Peoples Natural Gas Company, The Columbia Natural Gas Company and the Hope Natural Gas Company, all affiliated with the Standard Oil Company (New Jersey). From 1930 to 1935, he was manager of the New York State Natural Gas Corporation and the Keuka Construction Corp., and from 1933 to 1935 was vice-president of The Peoples Natural Gas Company, and The Columbia Natural Gas Company, of Pittsburgh.

Mr. Robinson became president of The Peoples Natural Gas Company and The Columbia Natural Gas Company in 1936. He was also president of the New York State Natural Gas Corp., Keuka Construction Corp., Reserve Gas Co., and the Lycoming United Gas Company. He was elected president of The East Ohio Gas Company, Cleveland, on November 15, 1941.

He is a past president of the Pennsylvania Natural Gas Men's

Association and a member of the American Gas Association, American Institute of Petroleum Geologists, American Mining Congress and American Institute of Mining and Metallurgical Engineers.

E. J. Boyer

CHAIRMAN, RESIDENTIAL SECTION

E. J. Boyer is sales manager of the Minneapolis Gas Light Company, Minneapolis, Minnesota.

A native of Saginaw, Michigan, where he received his elementary education, Mr. Boyer attended Ferris Institute, Big Rapids, Michigan, in preparation for a course in dentistry. This endeavor was interrupted by the World War when he joined the Army and served seventeen months overseas.

In 1921, he was employed in the electrical refrigeration service department of the Consumers Power Company, Saginaw, Michigan, and in February of the following year was appointed sales manager, holding that position until 1928 when he became sales manager of the Minneapolis Gas Light Company.

An active Association worker, Mr. Boyer is a past president of the Mid-West Gas Association, past chairman of the Mid-West Regional Sales Conference, and has served on numerous committees.

Harold L. Gaidry

CHAIRMAN, TECHNICAL SECTION

Harold L. Gaidry is gas engineer for New Orleans Public Service Inc., New Orleans, La.

A native of Louisiana, Mr. Gaidry obtained his engineering degree from Tulane University in 1923 and was selected by Westinghouse Electric & Manufacturing Company to enroll in the company's student engineering course. The next year or more was spent with Westinghouse in Pittsburgh and Philadelphia taking this course and doing electric railway engineering work.

Mr. Gaidry became associated with New Orleans Public Service Inc. in 1924 as equipment engineer in the Railway Division. In 1926 he entered the Gas Department as engineer in the manufacturing plant and advanced through various positions in this department until he became gas engineer for the company in 1933.

A prominent figure in the Technical Section for a period of years, Mr. Gaidry has served on many committees and is a past chairman of the Distribution Committee. He is also a member of the Subcommittee on Listing Requirements for Semi-Rigid Gas Appliance Tubing and Fittings and the Committee on Revision of Gas Appliance Ordinance.

The Executive Board of the American Gas Association at a meeting in Atlantic City, N. J., October 20. Left to right, front row: E. R. Acker, Poughkeepsie, N. Y., treasurer; C. M. Cohn, Baltimore, Md.; Alexander Forward, New York, managing director; George S. Hawley, Bridgeport, Conn., president; T. J. Strickler, Kansas City, Mo.; A. F. Bridge, Los Angeles, vice-president; Walter C. Beckjord, New York; and P. S. Young, Newark. Second row: Kurwin R. Boyes, New York, secretary; D. W. Harris, Shreveport; F. T. Carmody, New York; Marcy L. Sperry, Washington; Watson E. Derwent, Rockford, Ill.; C. A. Tattersall, New York; N. Henry Gellert, Philadelphia; and D. P. Hartson, Pittsburgh. Back row: H. Carl Wolf, Atlanta; H. D. Hancock, New York; C. E. Bennett, Pittsburgh; James A. Brown, New York; E. N. Keller, Philadelphia; Henry N. Mallon, Bradford, Pa.; R. J. Rutherford, Worcester, Mass.; Herman Russell, Rochester; and C. E. Gallagher, Cleveland



Honor President Hawley as Outstanding Leader

WHOLEHEARTED tributes to the character and ability of George S. Hawley, of Bridgeport, Conn., by local newspapers and others followed his election as president of the American Gas Association in Atlantic City, October 21. Without exception, employees, the press, civic and business organizations joined in acclaiming the splendid record and personality of Mr. Hawley in the business world. Some of those tributes provide an interesting commentary on the stature of the new leader of the Association and are reprinted below.

Testimonial Luncheon

Immediately following his return from the A. G. A. Annual Meeting at which his election took place, employees of The Bridgeport Gas Light Company, of which he is president, decorated his office with flowers and held a spontaneous reception following the close of business on October 23. A few days later, Mr. Hawley was the guest of honor at a testimonial luncheon given by the Bridgeport Chamber of Commerce. More than 200 people were present at this luncheon and heard Mr. Hawley receive the congratulations and commendation of this group. The guest speaker at this meeting was W. Gibson Carey, Jr., former president of the U. S. Chamber of Commerce and president of the Yale and Towne Manufacturing Company.

In the weekly Chamber of Commerce letter issued October 30, a citation appeared for Mr. Hawley which was accorded to him during the Centennial celebrations in 1936. It reads in part:

"George Sherman Hawley, president of the Bridgeport Gas Light Co., and also for many years president of the Bridgeport Manufacturers' Association, came to these positions largely as a result of the record which he established for industry, perseverance and down-



President Hawley (right) and Albert W. Hawkes, president of the United States Chamber of Commerce, at a dinner meeting of the Bridgeport Manufacturers' Association, November 17

right honesty as well as his qualities as a citizen and civic leader."

Mr. Hawley was further honored on November 17 at the forty-first annual dinner meeting of the Bridgeport Manufacturers' Association at which Albert W. Hawkes, president of the United States Chamber of Commerce, was the principal speaker. The dinner meeting, held in the Stratfield Hotel with 400 of Bridgeport's industrial leaders participating, was marked by the retirement of Mr. Hawley as president of the association, a position he had held during the past 17 years.

Letters Express Appreciation

As a token of their esteem, a \$1500 check was presented to Mr. Hawley and he also received a leather-bound portfolio of letters from all members of the Manufacturers' Association expressing their regard for him and appreciation for his work as the association's leader.

Following is a random selection of editorial comment which appeared in the Bridgeport newspapers following Mr. Hawley's election:

The gas industry of the United States has honored George Sherman Hawley, president of the Bridgeport Gas Light Company, by making him the president of the American Gas Association. This is in recognition of his leadership in the industry, not only as the successful head of a successful company, but also as one who through the years has used his energy and his talents to help advance the industry generally, in

its competition with other industries, the American way.

The people of Bridgeport, however, regard this action of the American Gas Association as an honor to Bridgeport. The nationwide prominence given to Mr. Hawley is reflected to the whole community.

The American Gas Association has chosen wisely, but it did not require this action for the people of Bridgeport, especially the thousands who know Mr. Hawley, to become aware of his great gifts.

Not only is he the president of a utility company which enjoys excellent public relations, on its merits. Not only is he the perennial president of the Manufacturers' Association, the organization which unifies in cogent matters all of Bridgeport's 400 industries. Not only is he one who gives ever generously of his time and effort and money to every worthwhile civic or philanthropic enterprise. Not only is he an outstanding amateur photographer, and a stenographer, who once made his living by taking down the proceedings in the courts. Not only is he a devout and working Christian. Not only is he, in short, one of our leading citizens. But he is more than all of these, an inspiration to our youth, for his career, and the success which he has attained, are a demonstration in these cynical times, of the fact that always has been true in America, that you can reach the top of the ladder by starting at the bottom, and that ambition and toil and consideration for your fellowmen do pay off.—*Bridgeport Times-Star*, Oct. 22.

A DESERVED HONOR

The American Gas Association is the organization which represents the professional front of the gas utility industry of the whole United States. It is an organization which includes in its membership many of the ablest utility executives in the industry. Naturally many of the communities repre-

sented in the association through membership of their local firms are much larger than the city of Bridgeport.

It is all the more honor both to Bridgeport and to George Sherman Hawley that the head of the Bridgeport Gas Light Company should now be chosen to be president of the national association. It is an honor but not a surprise to those in the home community who know George S. Hawley best. Those who know George Hawley realize in any company in which he is placed his character and personality will quickly bring him to the top.

The thoughtful and patriotic address with which Mr. Hawley accepted the responsibility of his new office was characteristic of the man.

—Bridgeport Post, November 4.

Bridgeport has been honored again, through recognition of one of its most out-

standing citizens, by the selection of George S. Hawley to be president of the American Gas Association. This is the highest tribute to ability and integrity that can be conferred on a member of the gas industry. Mr. Hawley has been for some years head of the Bridgeport Gas Light Company, and he has also served many terms as president of the Bridgeport Manufacturers Association.

Mr. Hawley has been outstanding in this community not only because of the place he occupies in the industrial world and as head of the Gas Light Company. He has been ever willing to assist with his services in many philanthropic causes. Character and personality are after all the finest traits to take any person to success. It is a tribute to the fitness of the man that out of a large association numbering among its members many prominent executives that Mr. Hawley was chosen as its head.—Bridgeport Life, Oct. 25.

Natural Gas Course Accomplishments Praised by Students



Prof. Young

WHEN Professor C. M. Young of the University of Kansas, Lawrence, Kansas, was undertaking, seven years ago, the preparation of a home study course on natural gas, he gave considerable thought to the problem of how the instructor could keep in close touch with

his students. There were, unquestionably, doubts in many a mind that a satisfactory correspondence course could be worked out in such a specialized field as natural gas.

However, the years that have followed prove conclusively that Professor Young and his advisory committee representing the American Gas Association have developed a method of study admirably equipped to the needs of those who could not attend a school—yet desired a broader knowledge of their field.

A short time ago Professor Young received a letter from a student who is on the engineering staff of the Federal Power Commission. He said:

"This is the first correspondence course I have undertaken, but I can see that one of the inherent difficulties of this kind of study is the lack of classroom stimulation. Finding an occasional favorable comment in the margin in red pencil takes its place to some extent and has been very encouraging to me. I think you have developed a remarkable technique with your personal comments. In some ways this type of course, with personal attention by the instructor, excels college

attendance. Certainly there is not the 'grind.' One may take his time."

How does each student receive the individual attention which the above extract seems to indicate?

First, it is the way in which the natural gas course is conducted, with the primary purpose of giving each student that type of attention which will let him get the most benefit from the work.

The plan is briefly this. When an application is received at the office of the Extension Division, a record is made covering all details available concerning the student, his preparation, library facilities, etc. A copy of the record is then sent to the instructor. Upon receipt of the student's papers, after he has been supplied with the necessary texts and questions, the date of such receipt is noted on the student's card. That paper then goes to the instructor who grades it and gives it whatever criticism he thinks necessary. However, the instructor does more than merely read the paper and assign it a grade. He often tries to become better acquainted with the student. In this connection he may write him a letter asking for more information. Or if the instructor is not satisfied that the questions have adequately measured the knowledge of the student, he may send him more questions.

Second, the unusual qualifications and personality which an instructor must have aid in achieving this individual attention. He must be able to read and judge papers, no two of which are alike, and determine from them the student's individual problems and difficulties.

Commenting on this type of instructor, Professor Young has said, "He must know the fundamentals of the natural gas indus-

try, and he must be interested in encouraging others to learn all that they can and be willing to help them. The reading of papers and checking of answers to questions is only a part of the function of an instructor. He should be able to consider the views of all sorts of people and help all kinds to extend themselves to the limits of their abilities; he should be able to encourage good work and occasionally give stimulating advice."

Has the home study course on natural gas been able to secure instructors such as described? Let the words of that student whom we quoted before, answer that question for you.

"I might take this opportunity," he writes, "to say that I am very gratified with the study course. It is a privilege to study under an instructor who knows his subject so thoroughly. He took me to task a few weeks ago (mildly but firmly) about rushing the course and writing short papers. I took to heart the bit of advice he wrote on how to study and how to prepare material and it has done me more good than he probably hoped or thought it would, not only in the course but in the performance of my professional duties as well."

Application blanks and any further information desired will be gladly furnished by either the University Extension Division, University of Kansas, Lawrence, Kansas, or Kurwin R. Boyes, Secretary, American Gas Association, 420 Lexington Avenue, New York, N. Y.

Southern Counties Takes Over Santa Maria Co.

APPLICATION of Southern Counties Gas Company of California to absorb the properties of Santa Maria Gas Company, affiliated through the Pacific Lighting Corporation, was approved by the California Railroad Commission early in October. Issuance of 15,000 shares of \$100 par capital stock of the Santa Maria company was given the Commission's approval.

The Santa Maria Gas Company, organized in 1906 as the first natural gas distributing company in California, served 11,774 meters in Santa Barbara and San Luis Obispo counties. The transmission and distribution systems of both companies are physically interconnected, and the Southern Counties Gas Company has supplied a considerable percentage of the gas used by the other organization.

Major personnel change will be the retirement of Robert A. Easton, for 32 years secretary-manager of the Santa Maria company and for the past 12 years its president. He retires on November 1 under the uniform benefit plan of the company. Allen T. Fesler, who has held the position of general superintendent for many years, becomes district manager. He will be succeeded in the position of general superintendent by Robert B. Bruce.

Planning Gas Sales . . . for Today's Emergency and Tomorrow's Opportunities



Clifford E. Paige

SOME of the lessons of the last war are still vivid in our memories. Some are gone forever, but its effect on gas companies and their new business efforts will be remembered for a long while.

This is not so much a history as it is an outline of a plan based on our earlier experience. I was not in Brooklyn at the time and you have asked about Brooklyn so I have tried to obtain the information.

World War Experience

Before getting into it, you might be interested to know of an experience elsewhere during the last war. The company with which I was connected had been going through troublous times along with all the others but a peculiarly critical situation arose by which every possible economy must be effected, even though it meant a sacrifice of future efficiency.

In those days our activities were not so highly specialized as now. The four major departments of our operation were roughly classed under the headings: Production, Distribution, Accounting and New Business. New Business came last because we were still young in that enterprise and because it was the only Department where there was any latitude for economy. We made an economy all right. We eliminated our New Business activity. It proved a sorry make-shift because, while the immediate showing was impressive, it took years to restore our losses.

Today New Business might still be numbered four, but too much appreciation of its importance has been ex-

Address before Residential Section, American Gas Association Annual Meeting, Atlantic City, N. J., October 20-22, 1941.

By CLIFFORD E. PAIGE

President, The Brooklyn Union Gas Company, Brooklyn, N. Y.

perienced ever to risk another discontinuance, if the business itself is expected to survive.

During the early part of the period of the last war, installment buying was not the serious national problem it has since become. In those days terms were much less liberal. In fact in the gas business, we operated generally on the principle that any appliance sold on deferred payments should be completely paid for during the first season of its use. For instance, we still thought of a gas water heater as essentially a summer appliance and if a water heater were sold early in April, payments were scheduled so as to finish the transaction sometime in the autumn. Quite a different business from the recently obtaining schedules which provided up to five years for payments.

Change in Installment Buying

The change in installment buying is but one of the differences between today's conditions and those obtaining twenty-five years ago. Today we have much more closely knit national appreciation of the possibilities of our service to the public and a consequent development second to none. The unity of National Advertising has asserted itself not only in a wider appreciation of gas service, but in an inspiration to the people back of that service.

Yes, times are different.

We may and almost certainly will face severe sales problems incident to the national emergency. It is essential that we develop appropriate sales plans and policies. The lessons of the past are valuable. I have been asked to relate our Company's experience in the last war and to tell you how it has influenced our planning for the coming period.

Prior to the last war, we were actively engaged in the sale of cookers, side-arm water heaters, radiators, portable heaters and lighting equipment. These appliances carried an exceptionally low mark-up and were sold on what were then easy installment terms. In December, 1917, we discontinued installment selling and a large stock of appliances on hand was gradually sold out on a cash or thirty-day charge basis.

Manufacturers of gas equipment whose business had declined because of our diminished merchandising activity looked to other channels for distribution. Consequently, department stores, hardware stores and others entered the gas appliance field. Being solely merchandisers, these agencies were not so interested in specification, performance and design of equipment as any gas company would have been. By restricting our own appliance activity, we had unwittingly contributed to a lowering of standard for gas equipment offered to the public. This took place at a time when purchasing power was increasing and when obsolete appliances then in use might have been readily replaced by much better equipment.

Lost Momentum

In 1922 we resumed energetic sales activity in the appliance field. We had almost to make a new Sales Department. Sad to relate, momentum had been lost and we had to pass through a painful period of trial and error. It was not until years later that we could boast a Sales Department of the kind we know today. Even then, though the Department was breaking all previous sales records, it was still later before we could see the results of the Department's work in terms of increased gas sendout. The effectiveness of an alert sales department is demonstrated by our sendout figures from 1935 to 1941. In 1935 our sendout was 19,808,000,000 cubic feet, in 1940 our

sendout was 24,535,000,000 cubic feet—an increase of 23.7%.

Today we are doing everything we can to sustain our sales momentum. We do not intend to disband our Sales Department nor to lose the high spirit and enthusiasm of its people. The way our Sales Department has been organized and operated during the past few years is proving its worth in the present emergency. This time we won't lose momentum.

First, our salesmen, since they have been trained for the last decade to sell all types of appliances, are in a position of adaptability and have the breadth of experience to sell any type of gas equipment which may be available to us. This would not be true if each salesman had specialized in his training in only one type of appliance. Second, we have relatively few outside salesmen. This is due to our method of cooperating with a large plumber-dealer organization spread over our entire territory. These two factors together comprise the primary reasons why we have had a low cost per meter for operating our New Business Department in the past and why we expect there will be no need for drastic curtailment in the selling staff.

Our sales force has already been reduced in some measure by the resignation of men who have joined the armed forces of the country. If we find it advisable further to decrease the size of the force, most of our remaining salesmen can, we hope, be transferred to other departments until the emergency is over. This we believe will be possible because many of our sales people had some general company experience before entering new business work.

A company cannot afford to lose its sales force nor the cumulative value of its new business effort. Present load must be held. New load—the life of all business—must be added. The work of an effective sales force offsets load lost constantly from causes more or less natural.

We come now to the question: How can a sales force best be utilized under present and possible prospective conditions?

There are two important fields of operation. The efforts of salesmen can well be diverted to the cultivation of markets heretofore not very aggressively expanded. For example, the commercial uses of gas can—in our own territory at least—be extended, and new ways for adapting gas appliances to the use of retailers, garages and other establishments, be developed. Another possible direction for increased effort is in the sale of small water heating units, particularly to low-income families. This is a time when any help or courtesy a company offers its customers is doubly welcome. A very important activity for salesmen is in the direction of better customer relations.

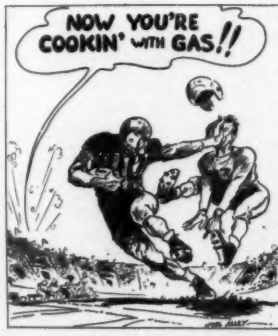
In every territory there are many gas appliances on the lines that are obsolete, and many that are not being used to their full potential volume. Many of these can be repaired and made very useful. Salesmen are ideally suited for this type of educational work. By making complete and careful surveys of equipment in use, they not only can help the customer meet the increased cost of living but can obtain valuable information as to what the customer may want in the way of future appli-

ances. In the performance of such work the salesman will build good will for his company and will keep alive in the public mind the fact that gas is safe, clean and economical, and should be his choice over all other fuels.

The cooking load is so important that it must have special and constant attention. Many ranges still in service lack heat controls and insulation. They can be used more efficiently and with more satisfaction if the same cooking technique is applied to them as is used in the modern CP range. Here is an avenue of education that can be effectively pursued by the cooperative effort of salesmen and Home Service Departments. Strong effort in this direction, we believe, will bring gratifying results for gas cookery and will aid materially in offsetting any threat of competition—present or future—to our cooking load.

The extent to which diversions of effort must be undertaken by management must be determined by circumstances. For instance, no company can maintain a force selling gas ranges if no gas ranges can be obtained. And so it is with other appliances. Most of us have already found some difficulty in getting deliveries of certain equipment. Our own sales fell off sharply as a result of the restriction in the matter of installment payments. This, we believe, is temporary.

The whole purpose of this paper is to express my belief that the New Business Department furnishing, as it does, fine inspiration to all other Departments, has established itself sufficiently to be regarded as just as important a feature of the business as any other activity.



A popular expression is used with telling effect by Ray T. Ratliff, advertising manager, Kansas City Gas Company, to highlight local activities and at the same time drive home the popularity of gas cooking. Each of the above cartoons appears as a complete newspaper advertisement.

Window Displays Feature Nutrition for Defense

THE windows pictured here are the main display windows of the Cincinnati Gas and Electric Company in Cincinnati, Ohio. This particular display was designed to tie in the company Home Service Department with the national theme of "Defense" in cooperation with the local Nutrition Committee.

The display was designed by Mrs. Mary Belle Burnett, the company's home service director and a display consultant. It was done under the supervision of the Sales and Publicity Departments of the Cincinnati Gas and Electric Company. It was displayed in a thirty-seven foot window for a period of two weeks and later parts of it were used in five branch stores for two weeks in each store.

The main unit is based on the government bulletin



tin "Eat the Right Food To Help Keep Fit" which was distributed while this display was being used. The foods shown were photographed in the Home Service Department and then enlarged and colored. The three meals shown in the circular blowups are examples of well balanced meals. They too were prepared in the Home Service Department and enlarged and retouched to their original color.

The recipe and menu service of the department is pictured in the right hand unit and the personnel of the department in the left unit. Each unit was designed to tell a complete story so it might be used in other displays.

The Gasco Guide . . . for Improving Forced Warm Air Installation Practices



H. P. Morehouse

WITH the growing acceptance of forced warm air heating, installation practices have become more chaotic. Some utilities have found it necessary to control these practices in order to relieve themselves of excessive service complaints.

In some areas installation practices had become so unorthodox and unsatisfactory that gas winter air conditioning as a system for heating was coming into disrepute.

A few of these systems of control have been in operation long enough so that their practical result could be observed.

Complete Program of Control

Profiting by these experiences the Metropolitan Gas Heating & Air Conditioning Council prepared a complete program for the control of installation practices in both the speculative and contract building field.

The plan, which was designed to be used in the Metropolitan New York Area, has now been approved by the American Gas Association, and any utility who wishes can make use of it.

There are two possible ways of controlling installation practices. One is a long range program to educate the public and the builder to maintain high standards. This program may be said to start from the top and work down. It will have its greatest effectiveness with contract housing where "quality" and "comfort" arguments find a responsive audience.

The other program may be said to start from the bottom and work up. It probably has more immediate effect and, further, has the advantage of be-

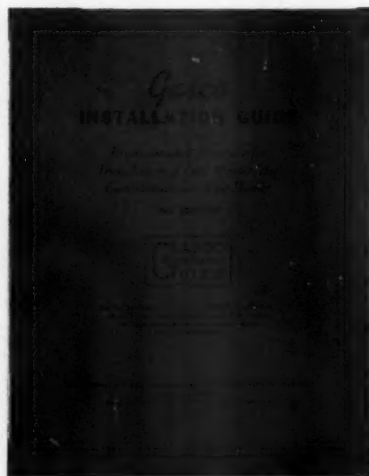
By H. P. MOREHOUSE

Metropolitan Heating & Air
Conditioning Council

ing effective in both the speculative and contract market.

Briefly, the plan consists of the following tools:

The Gasco Installation Guide
The Gasco Standard Form Architects
Specifications



Cover of the Gasco Installation Guide.
Original size is 8 1/2" x 11"

The Gasco Code of Minimum Requirements
The Gasco Short Form Architects Specifications

The Gasco Installation Guide of Recommended Practices for Installation of Gas Winter Air Conditioning in New Homes has just been revised. This Guide is really a text representing the working standards as practiced by a number of gas companies throughout the country. It was designed to be used in contract housing where the home owner and the architect wanted the best possible installation.

To quote from the foreword in the

Guide "The following recommendations are intended as a guide for proper and adequate installation of gas winter air conditioning systems for new homes and should not be construed as a code of minimum requirements. The recommendations of such recognized authorities as the American Society of Heating & Ventilating Engineers, the National Warm Air Heating and Air Conditioning Association and the National Board of Fire Underwriters, have been used as a basis for preparing this Guide."

Architects' Language Used

To arrange the recommendations of the Guide in a more readily usable form the material was transcribed into the language of the architect. It was printed loose leaf and arranged like an architect's specification. As a matter of fact the typography was made to conform exactly to that of the General Specifications of the American Institute of Architects. A colored cover is placed around each set of specifications and on the cover is printed the instruction to architects as to how they may use the material. It is arranged in such a way that it may be incorporated directly into the architect's regular set of general specifications simply by typing in certain information such as number, make and size of unit, or the pages may be used as scratch sheets which he can use as his rough copy to be corrected and passed over to his typist. In either case the gas company may be sure that the installation is planned according to the rules of best practice.

In most areas the contract houses are very much in the minority, and while it would be an ideal situation if speculation houses would use practices recommended in the Guide it is not logical to expect such support from the builders.

There are certain practices which are desirable and are worth the extra

costs to those who want the best. Some of these practices, however, are not absolutely essential and fairly satisfactory operation may be had if they are omitted. There are other standards which absolutely *must* be maintained if reasonable comfort and satisfaction is to result. These *must* practices are incorporated into the Gasco Code of Minimum Requirements. It incorporates standards below which the gas company takes no responsibility for good heating service.

Conformance to this Minimum Code might be enforced several ways: Delay in setting meter if a hazard is involved, notification to builder or home owner that the installer is making a substandard job, refusal to give regular periodic service to installations which are substandard, where charges are made for service a higher rate might be charged for substandard installation, etc. In general some real penalty must be imposed in order to get adherence to the minimum standards.

Experience of companies using the Minimum Code has been excellent. Standards have been raised without any permanent sacrifice in customer or builder relations. Most installers and builders welcome the control because it lessens their heating complaints and puts all bidders on the same basis. It eliminates the practice of each bidder trying to outdo the other in cutting corners in order to get the order.

The fourth control tool is the Gasco Short Form Architects Specifications. This set of specifications is based on the Gasco Code of Minimum Requirements and follows the form and typography already mentioned under the "Standard" form. This Short Form can be used where an architect draws plans for speculative houses, or even in some contract houses where the owner does not wish to pay the extra cost for an installation which meets best practice in all respects.

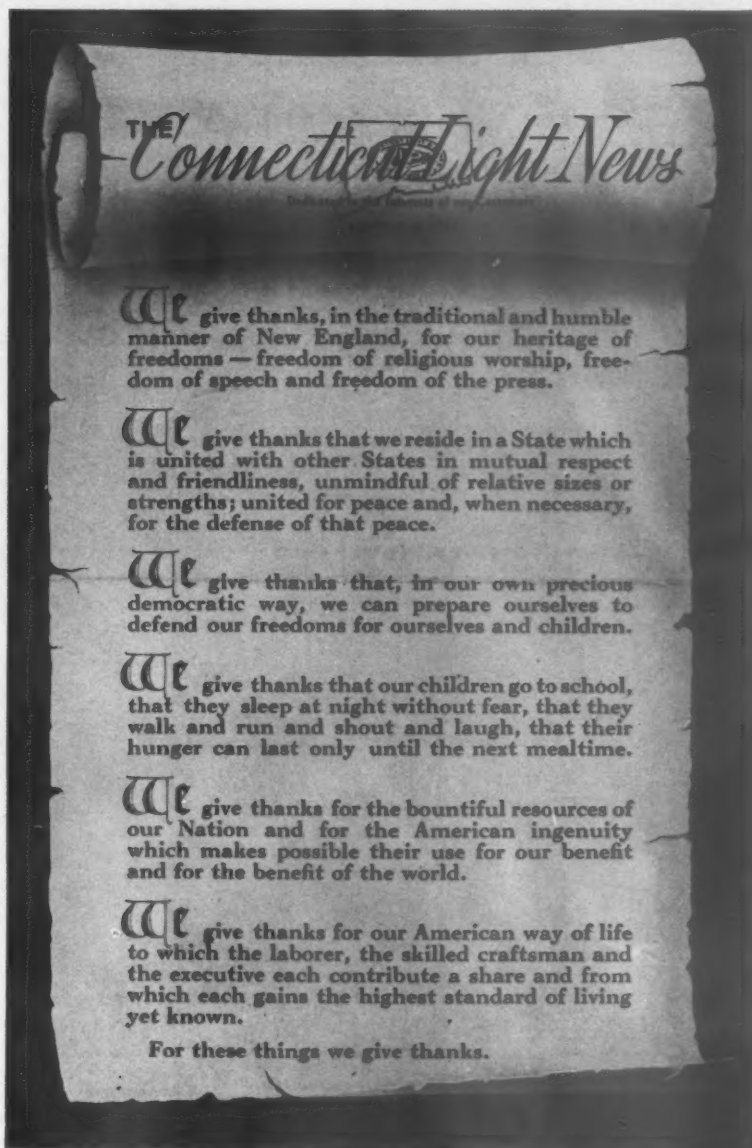
The proposed use of this material by some of the gas companies in the Metropolitan New York Area is to see that each architect, builder, manufacturer, dealer and sheet metal installer has copies of the Gasco Guide and the Gasco Code of Minimum Requirements. Next step is to see that each architect is made acquainted with the

"Standard" and "Short" forms of specifications. The architects will be furnished, gratis, sets of these specifications in limited quantity for their current use.

The Standard and Short forms of specifications and the Code of Minimum Requirements cost the gas company 5c each, and the Guide costs 7½c each. This is certainly small insurance to pay for getting a good installation on the lines and one that will not require a lot of extra service later

because of customer's heating complaints. It also offers an opportunity to improve architect relations because it will be a real service to a large percentage of architects.

Copies of the control tools mentioned may be obtained from the American Gas Association. Every gas company who is having trouble with winter air conditioning installation practices should find some ideas in this material that will help them control the installation problem.

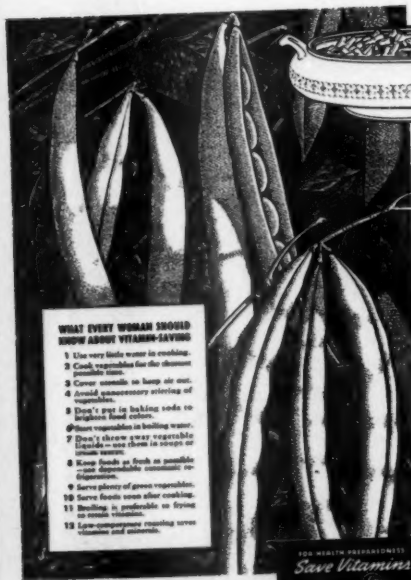


An original Thanksgiving Proclamation which was reprinted on the cover page of The Connecticut Light & Power Company's magazine, attracting widespread comment from customers and publications alike. It is as pertinent today as the day it was written

WHAT EVERY WOMAN SHOULD KNOW ABOUT VITAMIN-SAVING

- 1 Use very little water in cooking.
- 2 Cook vegetables for the shortest possible time.
- 3 Cover utensils to keep air out.
- 4 Avoid unnecessary stirring of vegetables.
- 5 Don't put in baking soda to brighten food colors.
- 6 Start vegetables in boiling water.
- 7 Don't throw away vegetable liquids—use them in soups or cream sauces.
- 8 Keep foods as fresh as possible—use dependable automatic refrigeration.
- 9 Serve plenty of green vegetables.
- 10 Serve foods soon after cooking.
- 11 Broiling is preferable to frying to retain vitamins.
- 12 Low-temperature roasting saves vitamins and minerals.

YOU PAY for Vitamins in food— are you actually SERVING them?



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- 12 Low-temperature roasting saves vitamins and minerals.

Let a CP gas range help you prevent vitamin waste

HEALTH-PROTECTING VITAMINS are being destroyed every day by improper cooking methods. These vitamins are in the foods you buy. But unfortunately, the only vitamins that help you and your family are those that actually reach your table.

SAVE THESE VITAMINS that work for your health defense. Follow the suggestions made by health authorities, based on rigid laboratory tests. You'll find that a CP (Certified Performance) gas range will go a long way to help you. For example, experts say that vitamin-saving cookery calls for the least possible amount of water. CP gas burners, with their special "simmer settings," enable you to cook with just enough water to cover the bottom of the utensil.

GET FULL INFORMATION on the many advantages of CP "vitaminized" gas cookery from a DEALER or SOUTHERN CALIFORNIA GAS COMPANY



FOR HEALTH PROTECTION
Save Vitamins
WITH A
GAS RANGE

Three of the ways a CP gas range will help you save vitamins

- 1 **VITAMIN-SAVING BURNERS.** Simmer settings make possible the "waterless" cooking of vegetables, recommended by vitamin authorities.
- 2 **VITAMIN-SAVING BROILER.** No preheating necessary. Meats retain more vitamin-rich juices, because cold-start broiling enables you to broil the portion nearest the flame, without overcooking the under side.
- 3 **VITAMIN-SAVING OVEN.** CP controlled heat enables you to roast meats with minimum of water, and yet avoid drying-out. Low temperature CP roasting also enables you to reduce meat shrinkage as much as 20%.

Tonight at 8—tune in
EVENING CONCERT—
2 hours of the world's
finest recorded music.
KMAC—dial 1330 KC

AND VITAMIN-SAVING IS ONLY ONE OF THE REASONS home-makers prize their CP gas ranges. Here are others: *Beauty.* CP gas ranges are up to the minute in design—step up the appearance of any kitchen! *Here feature.* CP gas ranges have faster top burners, accurate heat control, that enable the home-maker to have more free time. Automatic oven lighting, too. *Convenience.* Broiling is smokeless—a feature exclusive with gas. Top-burner control helps prevent boil-overs. The range itself is as easy to keep clean as china. *Economy.* It costs, on the average, 1/2 less to cook with gas than with any other completely automatic method. See the new models soon.

Vitamin-Saving Rivets Attention on

By J. S. SPAULDING, Advertising Manager
Southern California Gas Co., Los Angeles, Calif.

THE rapid fading of the "Buy Now" advertising of the country's utilities occasioned by appliance shortages, price changes, taxes and shortened terms has brought everywhere the complex question of fresh advertising appeals that will still maintain promotional vitality.

Southern California Gas and Southern Counties Gas Companies have met this issue head on with a theme which has been important in editorial and governmental circles for the past year, namely, health preparedness through properly cooked foods. Typical among the headlines used in the current series is "Be sure the vitamins you pay for reach your family table." This arresting idea is supported by a discussion on the destruction of vitamins through careless and wasteful cooking, concluding with the Certified Performance range, here stressed as the best cooking equipment for preserving vitamins in cooking.

Does your family get the benefit of the vitamins you pay for?



Improper cooking destroys vitamins. Let a CP gas range help you pay for your family's health and get the most out of the vitamins you pay for.

YOU'LL FIND VITAMIN-SAVING more dependable—with a CP (Certified Performance) gas range. To preserve vitamin-rich vegetables, for example, little water—and take advantage of the "keep warm" position on the burner. And remember—CP gas ranges as well as CP controlled heat are vitamin thrifty, too. Get more information soon from a DEALER or SOUTHERN CALIFORNIA GAS COMPANY.

Three of the ways a CP gas range will help you save vitamins

- 1 **VITAMIN-SAVING BURNERS.** Simmer settings make possible the "waterless" cooking of vegetables, recommended by vitamin authorities.
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AND HERE ARE OTHER REASONS YOU'LL LIKE A CP GAS RANGE—*Beauty:* Breath-taking new design! *Convenience:* Automatic lighting; high-speed burners; automatic oven control, plus time-saving accessories! *Efficiency:* Tailored heat to broil, boil, roast, smokeless broiling; smooth porcelain finish! *Economy:* One-third the average operating cost of the near-by method!

FOR HEALTH PROTECTION
Save Vitamins
WITH A
GAS RANGE

Nutrition Theme

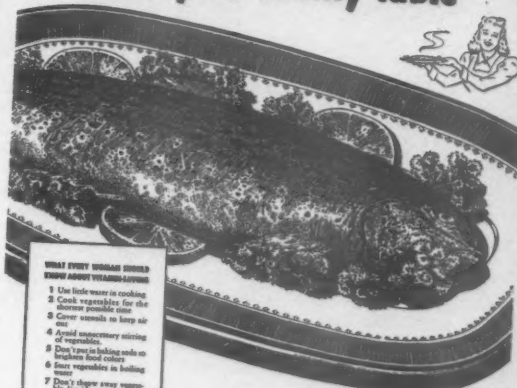
Modern Gas Cookery . .

Each advertisement, in addition to the subordinate though important illustration of the latest CP range, includes a useful and constructive panel entitled "What every woman should know about vitamin saving." In here are listed 12 cooking safeguards by which the vitamins she really pays for may, indeed, reach the family table.

A recent medical dietetic group working in cooperation with the Los Angeles Better Business Bureau singled out this series of advertisements on vitamin saving as "one in 5,000," where the subject of vitamins was handled constructively and in the public interest, together with a high regard for tenable and truthful claims. They made particular reference to the 12 points on vitamin saving in modern cookery with the conclusion that this was the full, factual story.

These advertisements will run indefinitely in all dailies and weeklies on the two systems, in a total of 180 newspapers. Over 450 outdoor boards support the campaign under the theme, "For Health Preparedness—Save Vitamins with a CP Gas Range." Already, instances of department store salesmen and dealers using this theme have been noted.

Be sure the vitamins you pay for reach your family table



WHAT EVERY WOMAN SHOULD KNOW ABOUT VITAMIN SAVING

- 1 Use little water in cooking.
- 2 Cook vegetables for the shortest possible time.
- 3 Cover vessels to keep air out.
- 4 Avoid unnecessary stirring of vegetables.
- 5 Don't "pre-heat" in boiling water.
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- 12 Don't "pre-heat" in boiling water.

Valuable food elements are destroyed by improper cooking — let a CP gas range help you save them

LIKE BROWNED POINT? Authorities say it's a healthy way to cook when foods are broiled right. With a CP (Certified Performance) gas range, you can be sure of wholesome, genuine broiling. Why? Because a CP gas range provides quick, live flame — requires no pre-heating of the broiler. Results — fast or meat, placed upon the cool grid, are not "fried" underneath while the top side is being broiled. And because a CP broiler gives fast, high heat, it quickly sears the outside — helps foods retain vitamins and minerals inside. Ask your dealer or gas company about the other CP features, too, that add up to serving delicious, well-balanced meals.

SOUTHERN CALIFORNIA GAS CO.



SAFETY, CONVENIENCE, ECONOMY, and flame safety, vitamin saving is only one of the desirable and valuable features you get by a CP gas range. Now the secret of saving vitamins is so simple. Check the flame — see how fast it heats. The flame is just what you need. It's the flame that sears the outside — helps foods retain vitamins and minerals inside. Ask your dealer or gas company about the other CP features, too, that add up to serving delicious, well-balanced meals.

Do the VITAMINS you buy actually reach your table?

Don't let improper cooking destroy precious vitamins — it's so easy to save them with a CP gas range

OF COURSE YOU KNOW how important vitamins are — how vital they are for "health preparedness." But are you sure that the vitamins you pay for at your grocer's actually reach your table?

HERE'S THE EASY WAY to save these important food elements. Use the accurately controlled cooking of a CP (Certified Performance) gas range.

AUTHORITIES SAY, for example, that it is of first importance to use as little water as possible in cooking vegetables. For this "waterless" method, a CP gas range offers you instantly the exact heat you need. Turned to simmer setting, the clear blue flame of flame do little work without boiling away vitamins.

AND THAT'S ONLY ONE of the numerous ways that you can save vitamins with a CP gas range. Get full information from a dealer or your gas company.

SOUTHERN CALIFORNIA GAS COMPANY

WHAT EVERY WOMAN SHOULD KNOW ABOUT VITAMIN SAVING

- 1 Use little water in cooking.
- 2 Cook vegetables for the shortest possible time.
- 3 Cover vessels to keep air out.
- 4 Avoid unnecessary stirring of vegetables.
- 5 Don't "pre-heat" in boiling water.
- 6 Don't "pre-heat" in boiling water.
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- 10 Don't "pre-heat" in boiling water.
- 11 Don't "pre-heat" in boiling water.
- 12 Don't "pre-heat" in boiling water.

EVERYTHING YOU'VE WANTED IN COOKING you'll find in a CP (Certified Performance) gas range. It's the way for vitamin saving, vitamin cooking and helps you save vitamins, too. Turned to simmer setting, the clear blue flame of flame do little work without boiling away vitamins. The cooler range is as easy to use as a flame — and, on the average, only 10 to 1 for GAS cooking.

SOUTHERN CALIFORNIA GAS CO.

Are you SERVING the Vitamins you PAY FOR?

Prevent vitamin waste — with a CP gas range

THOUSANDS OF FAMILIES with overflowing tables are actually undernourished for want of proper vitamins. These vitamins, though actually present when the food is bought, are being killed by improper cooking methods.

BE SURE THIS DOESN'T HAPPEN in your home. Follow the rules set down by food authorities. It's simple, the vitamin-saving way — with a CP gas range.

YOU CAN REDUCE MEAT SHRINKAGE, for example, as much as 20% through the low temperature roasting made possible by a CP oven. Many vitamins and minerals that might be lost through excessive heat or uneven temperature are thus saved. And even more burners you can retain vitamins in vegetables through the "waterless" method. Learn more about the new "health cookery" from a dealer or

WHAT EVERY WOMAN SHOULD KNOW ABOUT VITAMIN SAVING

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HERE'S YOUR "DREAM" RANGE, with the CP (Certified Performance) gas range. It's the way for vitamin saving, vitamin cooking and helps you save vitamins, too. Turned to simmer setting, the clear blue flame of flame do little work without boiling away vitamins. The cooler range is as easy to use as a flame — and, on the average, only 10 to 1 for GAS cooking.

SOUTHERN CALIFORNIA GAS CO.

Unique Device Developed for Standardizing Artificial Respiration Training

AN artificial respiration trainer, a unique device for standardizing artificial respiration training, has been developed by the Mine Safety Appliances Company and is offered to the gas industry. Outgrowth of an idea of the late C. I. Langdon of the Lone Star Gas System, Dallas, Texas, this device records accurately the work of each man training in artificial respiration and shows graphically on a chart (1) the pressure applied at each forward stroke, (2) the volume of air expelled, and (3) the cadence. Mr. Langdon's technique which is followed in the new device, was originally described in an article by Will C. Grant on page 299 of the September, 1936, issue of the *A. G. A. MONTHLY*.

With the aid of the M. S. A. artificial respiration trainer, a man newly in training can quickly observe the efficient results obtained when his hands are placed in the proper position and artificial respiration is properly applied. The effectiveness of men already trained can also be checked by a five-minute test. Actual pressure applied by each operator is said to be accurately re-

corded, and the minimum pressure to produce maximum breathing may be easily determined. A chart shows the effectiveness of variations in technique and helps determine the one producing the best results. Its use has stimulated a renewed interest in Prone Pressure Training in all groups where it has been used.

As an example of its use, a five-minute chart on the new trainer can be made by each member of a class and permanently filed as a performance record, or given to the man as a record of his own achievement. The trainer will also record a team's effectiveness in changing operators without loss of rhythm.

The complete unit is assembled in a case

measuring 16½" wide x 16" deep x 17" high, weighing only 55 lbs.—easily portable for transportation to classes. Further information may be obtained by writing the company at Braddock, Thomas and Meade Sts., Pittsburgh, Pa.

New A. G. A. Directors

WALTON JONES, president of Cities Service Company, New York, N. Y., and Edward P. Noppel, an executive of Ebasco Services Inc., New York, N. Y., have been elected to the Executive Board of the American Gas Association. The election took place at a meeting of the board in Atlantic City, N. J., October 20, during the Annual Meeting of the Association.

Bible Week, Dec. 8-14

FREEDOM—the freedom we mean when we look across the narrowing and darkening seas at France, Belgium, Poland and all the other nations, even Germany, who have lost whatever measure of it they once possessed.

Freedom—the heritage in America from those who fought for it and won it for us with "blood and toil and sweat." If we are to preserve it, we must be prepared to defend it with the same fire of belief in the principles on which it is based as inspired the founders of our liberty.

Those principles came from one great source: the Holy Bible. Faith in God, faith in human endeavor, faith in democracy; the basis of all faith is in the Bible.

Here is a startling thought:—the Bible is more honored than read. Even among church-goers is this a fact. Yet who among us would deny that the hope of civilization lies in spiritual regeneration?

In the belief that there is need today as never before for a genuine revival of religious fervor and moral responsibility, and with the desire to reawaken an appreciation of the Bible in the minds and the hearts of our people, there is to be a Bible Week.

The Laymen's National Committee has designated the period of December 8th to 14th as the First Annual Bible Week and has launched a nationwide effort to make it effective. This campaign has roused a whole-hearted response among laymen in every field of American life. Among the honorary members are Secretary Frank Knox, L. J. Taber, Master of the National Grange; John T. Manson, President of the American Bible Society and Judge Alfred J. Talley; among the regular contributors are Marshall Field, Mrs. Dwight Morrow, Judge Irwin Untermyer and such firms as F. W. Woolworth Company, United Fruit Company and the Ethyl Gasoline Corporation.

During Bible Week, listen to special afternoon radio programs, see if possible the short movies, go to church at least once. But first of all—dust off your Bible and read a chapter or two. Read, let us say, Hebrews 11, or Isaiah 55, or the 23rd Psalm, or the Sermon on the Mount. The application—to your own life and problems, to the gigantic clash of ideas and ideals which today threatens civilization with ruin—will be amply plain.

The words of Benjamin Franklin have stood for generations: "My advice to you is that you cultivate an acquaintance with, and a firm belief in the Holy Scriptures. This is your certain interest."

CLIFFORD E. PAIGE

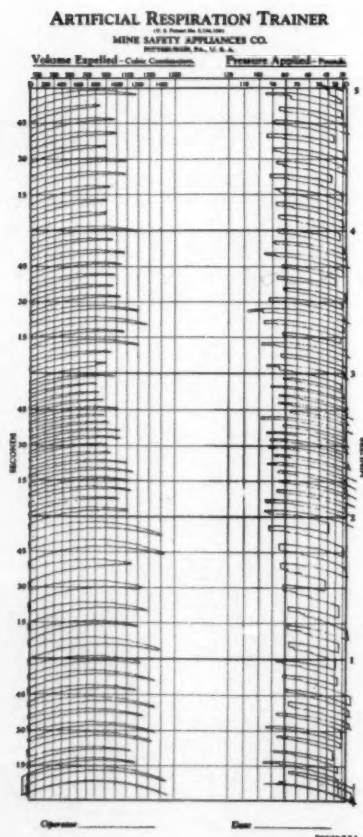


Chart which records the effectiveness of artificial respiration training

Long-Term Research . . . A Program of Action to Develop the Gas Industry



F. M. Banks

At a convention of the Pacific Advertising Clubs Association held in Santa Barbara in July 1941, a gentleman by the name of Kudner took up the defense of advertising, and especially the defense

of advertising during these times of defense production and turmoil. His subject has so much that is akin to mine that I wish to quote him briefly. Said he ". . . every man of patriotism and sense must know that in importance and urgency our defense program is the nation's first job, beside which all other considerations are secondary. But it would be only too easy, knowing this, to fall into the fallacy of thinking that because defense is vitally important, nothing else has any importance at all."

"It need not be a question of business as usual; no one expects that. It need not be a question of butter or guns. It is at bottom a question of whether a nation whose normal problem is one of surplus should in its economic policy emulate the policies of nations whose normal problem is scarcity. . . ."

Since I am going to propose that we enter upon further research work at this time, I feel the importance of supporting my position by quoting others in that same connection. Earlier this year in an exchange of correspondence on the subject of research and especially having to do with the question of whether now was a good time to enlarge the activity, Herman Russell, whom you all know as a forward looking and dependable leader in our industry, had this to say: "Conditions at present are uncertain and if I can be any judge they will continue to be un-

• Mr. Banks' discussion, which was presented at the Annual Meeting of the American Gas Association, October 22, deals with the organization and aims of the recently organized Institute of Gas Technology. It is an eloquent plea for the industry to keep its eyes on the future and not to neglect research activities because of pressure of defense work.

• Of particular significance to Association members is Mr. Banks' statement that the new organization will neither duplicate nor replace the research program of the A. G. A. Testing Laboratories but will augment and strengthen it.

By F. MARION BANKS

Vice-President, Southern California Gas Company, Los Angeles, California

certain for a good many years. If we wait for them to stabilize, I think we will never start. In this connection it is interesting to note that the British gas industry is going forward with its research program and that the Research Board has been of great help to the nation in the present war." (*London Gas Journal*—December 4, 1940.)

Research which is to give us long term results after the present emergency must be started now, for research is not the sort of thing you can buy a pint or a quart of any time you feel you have the spare funds. It takes planning, organization, training and long continued application to get results. Hence it is fitting that the gas industry has recently organized the Institute of Gas Technology which is now functioning in collaboration with Illinois Institute of Technology, formerly Armour Institute. The objectives of the Institute are:

1. Training of men for the industry.
2. Conducting fundamental and applied research.
3. Collecting and disseminating scientific information.
4. Encouraging further research by others.

The program is based on the premises that:

1. An urgent need for research exists.
2. Coordination of existing research is important.
3. An independent research organization, such as this, can best develop results of value to the industry.
4. Results of research must be correlated.
5. Men trained in gas research can best translate research results into functions of our business.

This Institute is going to hand pick graduate students from various scientific schools. They will be set to work, a very few a year—to earn masters' or doctors' degrees in the special field of gas research. The course of study, requiring college graduation for admission, will include three years of academic training based upon the fundamental sciences and fundamental research. The fundamental science studies include organic chemistry; engineering mathematics; physics; fluid flow and heat transfer; physical chemistry; gas technology; chemistry of polymerization and depolymerization; and catalysis and surface chemistry. With a high ratio of faculty to students, these men will receive supervised training in some research and that, together with required summer work in the gas industry, is expected to produce men prepared to enter our industry in greater degree than has been possible heretofore.

This program is not an idealistic fantasy, but is, as you probably know, patterned after the Institute of Paper Chemistry which was started in 1930. After prolonged investigation and consultation with research specialists, the organizing committee chose this method because it had been justified in the paper industry and because our industry has need for men trained specifically in the gas field.

What sort of research work will be undertaken by the Institute? Some have

said "Fundamental" research; others have said "Applied." The fact is that it is not easy to define either. What one means by fundamental is not nearly fundamental enough to suit the next man. Fundamental research can cover an almost endless range of subjects and call into play a great variety of special fields of research. It may deal with the most abstract of phenomena, or it may be very closely related to work immediately at hand. Fundamental research results may be like those of the Bell Telephone Laboratories. In 1898 Dr. Campbell worked out the solution of a problem in circuit theory, and the results were filed because it had no current application. Seven years later someone else recorded some interesting behaviours of oscillating crystals. Years later, when the problem of preventing cross talk in telephony was before them, they went to the several files and put together a ready-made solution.

No Wild Goose Chase

But let no one think the Institute is launching forth upon any noble wild goose chase. Research, even fundamental research, need be no glimmering will-of-the-wisp. There are problems just off the beaten path of our everyday affairs about which little is known.

As Dr. Huff, head of the Department of Engineering of the University of Maryland, has said "... very often in these applied researches you find that you are up against a stone wall and have to go into fundamental study before you can get your applied objective, and if you have the right kind of opportunist running your fundamental research, there will come as by-products, very frequently, many valuable applied suggestions."

Thus we see the close kinship of applied research and fundamental research. The Institute proposes to conduct research in either, without the restricting necessity for justifying its program by producing cash results from month to month, but with the fullest expectation of proving its value upon longer terms, just as the paper industry has done. We are not unmindful of the need which Dr. Huff further pointed out, when he cautioned that the industry "... should be doing fundamental research on principles which

appear to bear upon the industry, particularly its economic welfare. I think it should not attempt to go as broadly into fundamental research as a university might, but it should do fundamental research, pioneering research into such fields as appear to affect the gas industry and its activities in a major way."

As R. B. Harper, vice-president of The Peoples Gas Light and Coke Company, has said, "If we make fundamental studies of our gases, and all kinds of gases, seek higher temperature ranges, study the fundamentals of combustion, refractories, etc., we may discover things of inestimable value to the industry."

He went on to say "... I think ... the average spent annually for research by industrial corporations is something like 1.3% of their capitalization, and that is a lot of money. What are those companies doing? They are thinking about obsolescence; they know they will go out of business unless they are prepared. They must hold their markets. Companies must be sure to build for the future, unless they expect to die of obsolescence, or starvation from loss of markets. I think we have not enough imagination about the possibilities of gas."

Service During War

Of course the British research program has been going on for many years and doubtless they are now experiencing some of the benefits of the work which was started so long ago. In fact their research organizations have been of material service to the government during the present war.

Some one may say that we have improved our appliances very greatly in the past several years. He may refer to the undoubted benefits which have resulted so far from our unique CP range activity. And I do not wish to seem to deny either of the assertions. I wish only to point out how much trouble is still experienced every day by our 16 or 17 million customers. There is so much improvement still to be made.

You will be interested to know that 40 utility companies are carrying on some research work of their own; that 17 others have been getting research done for them. The combined expend-

iture for such work has been on the order of \$350,000 annually. To that must be added an unknown amount of research by manufacturers of equipment and appliances. All in all, the range of subjects covered is very wide, although probably the great majority of the work has properly been of the very practical sort, which I suppose one could call "applied." Almost none of it has been correlated with any similar work elsewhere.

A. G. A. Research Program

The American Gas Association has carried out a program of investigation and research for years. Some of you know about it, but to many it comes as a surprise to hear that for the past fifteen years the American Gas Association has budgeted between \$50,000 and \$60,000 yearly for research of one sort or another. Some of the work has been farmed out to industrial concerns or universities; some has been done at the Cleveland Laboratory.

You probably know that requirements research is a necessary part of developing approval requirements for the appliance testing program. For example, several years ago when it became necessary to test insulation of range ovens, we had to have some standard to go by. That called for some investigations into the subject. In considering tightness of furnace joints, the laboratory was asked to ascertain what should be acceptable tightness and what should not. Frequently such problems have called more for investigations than for research. At other times, research of a much more fundamental sort has been necessitated. It is my understanding that Requirements have taken from a third to a half of the American Gas Association budget on the average. Even so, there have been times when the necessary work was put over to the next budget period because funds were not available in the general budget.

Although the Cleveland Laboratory was not originally established for the purpose of carrying on research, it has done work of a more truly research nature for the committees which have been ably headed for many years by F. J. Rutledge of Philadelphia. Because of this, it has come to be equipped and staffed to handle research especially in

the fields of (1) Fuel Gases, (2) Combustion, and (3) Appliances, and other current utilization equipment. Some 4000 square feet of space is available for varied research work, together with necessary office space, storage facilities, access to chemical laboratories and library facilities. Mr. Harper has been head of the requirements activity of the American Gas Association for many years, and it means a great deal to me when he says of the Cleveland Laboratory and its personnel, "I think this establishment has been used largely for so-called researches in the field of developed appliances, etc. and utilization, because they had a good background and fine knowledge of appliances and utilization equipment such as does not generally exist anywhere else."

During the past 16 years they have issued 227 reports on problems relating to requirements. One hundred and ninety-two progress reports and bulletins have been prepared on research projects covering studies on mixed gas; pipe joints; mechanical couplings; comparative fuel efficiencies; industrial problems on preheating, burner noise, operating and wall temperatures of industrial furnaces, combustion space requirements, and production of reducing atmospheres; domestic appliance problems on fundamentals of appliance design; and a comprehensive study of atmospheric burner design. Several projects are actively being worked on at this time.

Institute—A. G. A. Relationship

What is to be the relationship between the work of the new Institute and the Cleveland Laboratory? Will the new organization duplicate the work of the older one; will it replace it? These are questions that should be answered and can be. In the first place, let me repeat that one of the objectives of the new Institute is to foster more research work by our industry generally. Secondly, let me remind you that the men actively connected with the development of the Institute have been interested in the gas industry and in the American Gas Association and continue to be. In fact, many of them have been leaders in support of the American Gas Association and continue to have at heart the interests of the Association and the industry it represents.

Repeatedly statements have been made by members of the new board that they fully expect to avoid duplication of effort. That if a proposal comes before the board to undertake research which can be done more quickly, less expensively, more logically at Cleveland, they will want to suggest that Cleveland undertake it. That in their capacities as members of the American Gas Association they will be interested to attempt to see that funds are raised within the Association, adequate to cover the needed work. In other words, while the Institute expects to encompass fundamental and applied research without unnecessary restriction, it wants

to constitute an additional facility and not to attempt to replace an agency which is exceptionally qualified in certain fields for research.

The reality of their position becomes clear at once when one contemplates how limited will be the amount of research which can be undertaken for \$100,000 a year, or even twice that. During the organization of the Institute, questionnaires were sent to between four and five hundred utilities asking their ideas about what research problems the industry had before it. The replies comprised nearly a dozen printed pages. They ranged all the

(Continued on page 455)

The Institute of Gas Technology

By HENRY TOWNLEY HEALD

*President, Illinois Institute of
Technology and Institute of
Gas Technology*

THE Institute of Gas Technology has four main objectives, namely, training of men for the industry, carrying out of fundamental research, collecting and disseminating of scientific information and the conducting of applied research investigations on specific industrial problems.

The educational program of the Institute will be on a graduate level and will lead to master's and doctorate degrees. It is open primarily to highly

qualified college graduates who have degrees in chemical engineering from accredited institutions. Graduates in petroleum engineering and a few with unusually sound background in chemistry and related sciences may be considered.

The four year program includes three years of academic training based on the fundamental sciences and fundamental research. One year of academic work is designed to give the background of the industry, and will include operation, management, and regulation of public utilities, equipment and material for manufacture, storage and distribution of gas; by-products of the gas industry; management problems of the gas industry; and other related topics.

Supplementing the educational activities, there will also be carried on an intensive research program. Members of the faculty of the new Institute are being selected not only on their merits as educators, but also on outstanding ability in research. These men together with a full-time research staff and students working on fundamental thesis problems will make available a great wealth of knowledge relating to gas and its uses. Reviewing what research has brought about in other industries, it seems inevitable that the concentration of effort intended in such a program will produce new information and tools of incalculable benefit.

The Institute will have adequate per-



Dr. Heald

sonnel, shop and other facilities for the development and trial of ideas resulting from fundamental research investigation. It is planned to provide the new Institute with the foremost library in gas technology in the country. The Institute will collect all scientific publications and available scientific data bearing on the gas industry. It will act as a clearing house for all research in the industry. This material together with its own findings will be correlated, published and distributed to member companies in the form of bulletins and reports. Its reference library will be available not only to students and personnel of the Institute, but also to representatives of member companies.

It is hoped that all companies in the industry will be stimulated by the work in the Institute to carry on research activity of their own. If it is found that such activity is beyond the facilities of an individual company, that company or group of companies may take ad-

vantage of the facilities of the Institute of Gas Technology under special arrangements available to member companies for special applied research projects.

It is planned that the student body of the Institute will eventually number about sixty, fifteen being selected each year from the entire country. For the first year of operation, four fellowship appointments have been made. The selection of the students will be on the basis of high scholastic attainment, qualities of personality, leadership, research capacity, moral integrity, and social stability. Students of the Institute will be holders of such fellowships, renewable annually until completion of their work.

Each fellowship carries a stipend of \$1,000 a year from which \$325 is deducted for tuition, leaving the student a monthly income of \$75 for the nine months of the academic year. In addition, summer employment in the industry for three months at a base pay of

\$125 per month is virtually assured and is required as a part of the program.

In closing, may I quote in part from a recent editorial in *Chemical and Metallurgical Engineering*, commenting on the formation of the new Institute of Gas Technology—

"Here, surely is about the soundest investment any process industry could possibly make. In addition to regular dividends in the form of research results, there will soon be annual stock issues of highly preferred securities in the form of thoroughly trained post-graduates in science and engineering. Their future earning power for the gas industry is almost unlimited."

Reappointed Chairman of Rate Committee



C. L. Follmer

C. L. FOLLMER, manager of the rate research department of the Consolidated Electric Light and Power Company of Baltimore, Baltimore, Md., has been reappointed chairman of the Rate Committee of the American Gas Association for the term 1941-42.

During Mr. Follmer's previous chairmanship, the Rate Committee, whose function it is to study all phases of rates and rate-making, considered chiefly problems arising from the present national emergency. Because of the continuing nature of these problems and Mr. Follmer's excellent record as chairman for the past year, President George S. Hawley decided that his duties as head of this committee should be uninterrupted, thus assuring continuation of activities already commenced.

After graduation from Cornell University in 1910 with a degree of Mechanical Engineering, Mr. Follmer spent five years in the power and mechanical department of the Consolidated Coal Company in Fairmont, W. Va., engaged in power plant design and engineering work. The following two years, from 1915 to 1917, he was assistant to the chief engineer of the Hooker Electrochemical Company of Niagara Falls. After a stay of several years in Saranac Lake, N. Y., his next assignment was that of manufacturer's agent for a three-year period in which he engaged in the sale of power plant.

From 1924 to date, Mr. Follmer has been associated with the Consolidated Gas Electric Light and Power Company of Baltimore—since January, 1938, as manager of the rate research department.

CONVENTION CALENDAR

DECEMBER		APRIL	
Dec.	1-2 National Industrial Council Waldorf Astoria Hotel, New York, N. Y.	Apr. 13-15	Mid-West Gas Association Sioux City, Ia.
	1-5 American Society of Mechanical Engineers New York, N. Y.	19-21	Gas Meters Association of Florida-Georgia Savannah, Ga.
	5 New Mexico Oil & Gas Association Artesia	27-30	U. S. Chamber of Commerce Washington, D. C.
1942		MAY	
FEBRUARY		May	4-6 A. G. A. Natural Gas Convention New Orleans, La.
Feb.	9-11 Southern Gas Association and A. G. A. Southern-Southwestern Gas Sales Conference Biltmore Hotel, Atlanta, Ga.	JUNE	
		June	4-5 Canadian Gas Association Windsor Hotel, Montreal
MARCH		OCTOBER	
Mar.	2 American Society of Testing Materials Cleveland, Ohio.	Wk. of	
	12-13 A. G. A. Industrial and Commercial Gas Sales Conference Pittsburgh, Pa.	Oct.	5 American Gas Association Annual Meeting San Francisco, Calif.
	19-20 New England Gas Association Boston, Mass.		5-9 National Safety Congress and Exposition Chicago, Ill.

Our Frontispiece

THE Northwestern holder of the Citizens Gas & Coke Utility, Indianapolis, shown in the frontispiece of this issue, is an interesting new development in the gas industry. According to Tinsel Miller, who took the prize-winning picture, this holder makes the following interesting statistics:

First of all, it is the tallest gas holder in the country, but not the largest in capacity. It is 394 feet tall to the top of the aeroplane beacon, and it is 218 feet in diameter. 6,400,000 lbs. of steel; 7,500,000 lbs. of concrete; over 1,030,000 rivets and 13,000 lbs. of welding rods were used in the construction. 55,000 gallons of tar were needed for the seal and to furnish lubrication for the piston.

The piston weighs 1,200,000 lbs. and floats on gas of about 8 inches of water column pressure. 935 gallons of paint were used to paint the interior and 4,800 were used in giving the outside three coats. The actual erection took 128 full working days. It has a capacity of 12,000,000 cubic feet of gas which doubles the former capacity of the holders of the Indianapolis utility.

Metal Expert Appointed

DR. PHILIP T. STROUP of the Aluminum Company of America's Research Laboratories has been appointed a member of the A. G. A. Metal Treating and Melting Committee.

Mid-Southeastern Group Elects Officers

A LARGE number of gas plant operators from several states gathered at State College, Raleigh, N. C., November 13 and 14, to take part in the annual meeting of the Mid-Southeastern Gas Association and the Institute for Gas Plant Operators. The program was arranged by the College Extension Division headed by Director Edward W. Ruggles and the Department of Chemical Engineering, headed by Dr. E. E. Randolph. J. R. A. Hobson of Richmond, Va., president of the gas association, presided at the first session.

Ralph H. Fry, president and general manager, Raleigh Gas Co., Raleigh, N. C., was elected president of the Mid-Southeastern Gas Association for the new term. Other officers elected at the meeting are: first vice-president—E. J. Meade, president, Roanoke Gas Company, Roanoke, Va.; second vice-president—R. L. McCuen, Duke Power Co., Charlotte, N. C.; secretary-treasurer—Edward W. Ruggles, director of college extension division, Department of Chemical Engineering, North Carolina State College (re-elected).

Highlight of the program was the presentation of a paper on "National Defense and the Gas Industry," by S. J. Beale, general manager, West Gas Im-

provement Co. Inc., New York, in which the gas industry was warned to prepare itself for any emergency. This subject was also reviewed by Alexander Forward, managing director, American Gas Association, who outlined steps taken by the Association to support the government's program.

Speakers at the meetings included: A. H. Mills, Knoxville; R. Van Vliet, Staten Island, N. Y.; C. H. Printz, Cleveland; R. A. Palmer, Charlotte; E. O.

Werba, Atlanta; A. J. Wescott and Miss Ada Williams, Raleigh; W. J. Filer, Richmond; Miss Gladys Vaudreuil, Roanoke; Miss Ella Outland, Burlington; R. W. McClenahan, Philadelphia; A. E. Jones and Ralph H. Gibson, Wilmington; S. L. Duckett, Charlotte; John E. Bogan, New York; and A. J. Wescott. A paper by E. J. Kollock of Atlanta was read by Mr. Werba in Mr. Kollock's absence.

A golf tournament and banquet were features of the meeting.

Employees of Three Gas Companies Awarded McCarter Medals

EMPLOYEES of three gas companies were honored in recent months for having performed outstanding acts of life saving by use of the Schafer prone pressure method of resuscitation. In each case these employees received the McCarter Medal or Certificate which is awarded by the American Gas Association for acts which are judged to have been above and beyond the call of duty. The growing list of those who have rendered this conspicuous service to their fellow men is a record of which the gas industry is extremely proud.

Ten employees of The Brooklyn Union Gas Company who had saved lives during the past year and who had been selected to receive McCarter awards were honored at the company's seventeenth annual Service Emblem Dinner in the Hotel St. George on November 6. Approximately 900 employees, their wives and guests were present at the dinner which is held each year to pay tribute to those employees who have rendered exceptional service.

Those who received this recognition for their alert and effective efforts are: McCarter Bar—William J. Gallavan; McCarter Medals—William F. Cody, Joseph Gore, Martin J. Madden, George McSheffrey, Henry C. Stebbins, and Frank A. Sheehan; McCarter Certificates—Thomas Schecker, Andrew F. Kilgallon, and Francis H. Knapp.

Fellow workers in the Everett, Mass., plant of the Eastern Gas Fuel Associates, attended a special meeting on Tuesday, November 4, to honor Earle A. Thayer and Arthur S. Spear who had been awarded a McCarter Medal and Certificate of Assistance respectively for their outstanding acts of life saving. In the presence of company officers, John Drewson, works manager, presented the awards and congratulated Messrs. Thayer and Spear on their fine achievements. Mr. Drewson expressed the hope that other employees would profit by their example and show the same interest and ability in working safely and the same cool action in the face of emergencies which had been

so ably demonstrated by these men. The company's magazine "The Breeze" published a complete account of the presentations.

Three McCarter Medals and Certificates were presented recently to employees of the Consolidated Edison Company of New York, Inc. who had been instrumental in reviving persons overcome by gas. George T. Ditty received the medal and certificate from H. S. Sutton, executive assistant to the chairman of the board, in July; Dalman E. James was presented with a medal and certificate by R. B. Grove, vice-president, in August; and Patrick J. Gaughan was awarded the medal and certificate in September. The latter award and a McCarter Certificate of Assistance to Sante Paci were presented by G. W. L. R. Travis, manager, gas distribution-subway department.

Wartime Lighter



To conserve sulphur by reducing the use of matches, this public gas jet, which burns from 9 A.M. to 6 P.M., has been set up at Newcastle, England. A Women's Air Auxiliary Force member "lights up"



Accounting SECTION

LYMAN L. DYER, *Chairman*
L. A. MAYO, *Vice-Chairman*
O. W. BREWER, *Secretary*

Customer Billing Safeguards Against Errors

By M. F. YOUNG

*The Connecticut Light and Power Co.,
Waterbury, Conn.*

ALL utility companies know that customer bills must be rendered as accurately as possible to eliminate potential complaints. To this end, the billing and bookkeeping procedures must include the necessary internal checks together with other safeguards against errors. The thorough training of employees in their respective duties is highly important. Work schedules in district offices as well as the billing department must be properly co-ordinated to achieve good results.

It might be well to explain the general scope of the billing and bookkeeping work involved so as to better understand the reasons for the methods employed. There are sixteen offices located in different sections of the state in which customer accounts are kept. At this writing, there are about 260,000 electric, gas, and water meters in 1015 route books, grouped into twenty billing cycles which are read in accordance with a predetermined schedule. About 196,000 customers' service bills are rendered each month on which previous service bills unpaid and merchandise amounts are also shown. The large industrial users, street lighting and final bills are billed in the district offices.

District Offices

The accounts in the districts are kept under the stub ledger plan and are arranged into sections to correspond with the twenty billing cycles. After readings have been obtained, the meter books are retained one day in the district offices for review so that any special conditions may be noted on the route sheets prior to billing, as a safeguard against errors. During this review the district offices determine if estimated bills or the minimum charge of the rates are to be rendered or billing withheld until readings are obtained.

On the day the meter books are read for a particular section, a cycle balance is taken. An adding machine tape in duplicate is drawn of the outstanding amounts, which tape shows the folio numbers as well as the service amount unpaid for each active account. The inactive accounts which are kept separate are also listed on this tape. Next, any credit balances involved are listed. Before the tapes are forwarded for billing, the inactive accounts and credits are torn off the duplicate because they are not used in the billing department. The tapes are identified with the cycle, district and route number. Similar adding machine tapes with

folio numbers, and appliance amounts are also prepared. The appliance amounts include any installment amounts on time payment sales whether they are current or in arrears as well as 30 days sales. After billing, all tapes are returned to the districts with the route books and bills. It will be noted later how these tapes are used in proving the work in the billing department.

Meter and Folio Controls

Another important step in the procedure is the establishment and the maintenance of meter and folio controls for each route book. Such controls provide a check to insure that all meters have been accounted for by the districts and billed. As set, reconnect, disconnect and remove meter orders occur, folio numbers of the accounts involved are entered under the proper heading on the control. Prior to the time the meter books are sent to the billing department, the folio numbers posted to the controls are summarized. This involves adding the folios under the various headings. The sum of the set and reconnect totals less the sum of the disconnect and remove totals are added or subtracted from the folio control. In addition, an itemized count is taken of the regular sets, reconnects, disconnects and removes and such items as involve non-metered accounts or the removal of disconnected meters. The itemized analysis is then used to change the meter control total. The value of these controls will be further explained when the meter books are checked in the billing department.

At the end of the accounting period, the meter and folio controls in the route books are again summarized by the districts so as to reconcile the number of meters with independent figures prepared by the meter department. The meters proven at the time of billing plus or minus meter changes up to the end of the month represents the total to be compared against the meter department's report. The electric, gas, and water meters are balanced separately.

A further precaution is taken to insure billing accuracy. When the districts render a special or final bill, symbols are entered on the meter route sheets opposite the month involved to notify the audit clerks

in the billing department regarding the exact nature of the special condition. These symbols have been an invaluable aid to both the districts and the billing department as they cover all irregular and special combinations which arise in connection with various conditions and rates billed.

When extension arrangements or other special conditions in the rate are involved where the customer agrees to a monthly guarantee which is greater than the minimum of the rate, the monthly charge is converted into the equivalent number of kilowatt hours or cubic feet and entered on the meter route sheet. When the audit clerk reviews these particular accounts for billing it is only necessary to compare the current monthly use and the guaranteed use. By following this method it simplifies the audit work to the extent that it is unnecessary to compute the amount of the bill to see if it exceeds the guaranteed use.

Another procedure used to increase accuracy is the placing of a blue sticker on the route sheet affected to direct the audit clerk's attention to a new condition on the account since the last billing date. The stickers indicate the change to be made on the advance card so that the audit clerk will not be required to check all items on the cards with the route sheets prior to billing.

All meter orders involving customer changes are scheduled and routed to the billing department so that the addressograph files may be kept strictly up to date. The importance of handling such customer changes on schedule cannot be over-emphasized as delays interfere with work schedules and leads to contributing errors. Another reason is that bills are printed and addressographed one day prior to billing so as to include the maximum number of customer changes.

Central Billing Department

The billing department has been in operation about five years. Numeric tabulating equipment is used together with addressograph equipment. The bills rendered are prepared in accordance with about seventy different electric, gas and water rate schedules. Originally about 218,000 meters were billed each month. The meters have now grown to about 260,000 and billing is still carried on without increasing the equipment. The personnel was increased by one clerk.

In the early days of this billing installation, about 82% of the meters were

billed by means of master cards. As more experience was gained it became obvious that greater accuracy could be obtained and considerable time saved by increasing the number of master cards as conditions warranted. This was done by a regular review of bill frequencies so that today 96% of all meters are billed by master cards, thus minimizing the possibility of errors resulting from hand computations.

It is absolutely necessary to have a smooth running department to achieve billing accuracy. Work schedules to cover every operation must be established to control the work. These should be arranged so that each task will be completed at a certain time during the day. Once the schedules are established, it can be readily noted if any particular operation is causing congestion and proper measures can be taken to relieve the condition. An unsteady flow of work may cause considerable trouble and contribute to errors.

Sticker Use Valuable

The audit clerks compare the folio numbers, rates, and fixed amount billed each month as shown on the advance cards with similar data on the meter route sheets. They also compute irregular bills and the regular bills not master carded. At this time, they observe the blue stickers placed on the meter route sheets and make necessary corrections on the advance cards where changes have been made since the last billing date. Without the use of these stickers, there is no question but that more errors would occur and it would require considerable time to check all the data on the cards each month before billing. To further simplify the audit work while retaining accuracy features, the audit clerks are furnished with billing charts. The charts are set up in loose leaf books with visible index tabs for ready reference.

The accounts not billed by master cards which have been hand computed by the audit clerks are subsequently checked as a separate operation by proof clerks. Before the cards are given to the proof clerks they are interpreted so that the amounts are printed thereon. By checking the printed amounts on the cards a proof is provided of the computation of the bill and the key punching. These safeguards have practically eliminated errors made by the audit clerks.

At the checking machine, the meter reading subtractions and key punching is checked. At the same time the machine counts the meters and adds the folio numbers. These totals are used to prove the meter and folio controls. The folio numbers of unpaid service accounts and the amount are also totaled. These totals are proved against the totals shown on the adding machine tapes. The cards for appliance charges are put through the checking machine to accumulate the totals of the folio numbers and the amounts.

	1937	1938	1939	1940
Total Number of Errors.....	1,862	409	317	321
No. of Meters Billed.....	2,736,396	2,788,578	2,852,448	2,939,193
No. of Errors per Each 10,000 Meters.....	6.8	1.5	1.1	1.1
No. of Bills Rendered.....	2,099,182	2,133,710	2,181,839	2,245,921
No. of Errors per Each 10,000 Bills.....	8.8	1.9	1.5	1.4

These totals are also proved against the totals on the adding machine tapes. By totaling the folio numbers and the amounts for the unpaid service and appliance amounts, it provides a proof that the right customer has been billed the correct amount. The foregoing checks insure that all amounts and items have been proven prior to the time that they are sorted down for master card extensions.

As part of the sorting operation, it is required that all cards, as they are removed from their particular pockets be sight checked. The purpose of this check is to eliminate any possible errors which may be the result of cards falling in with the wrong group.

Prior to the time the cards are sequence checked, they are put through the tabulator to obtain a predetermined total of the revenue to be billed. At the same time, another meter count is accumulated, which figure must balance with the number of meters proved at the checking machine. This is done to insure against loss of cards after the meters have been proved and during the various operations in which they are handled before they are billed.

Sequence of Operation

The sequence operation includes comparing the new customer's name on the route sheet with the pre-addressographed bill to verify that all name changes have been made since the last billing date. At this point the folio numbers on the meter controls are a material aid in locating these name changes. This check insures that former customers at that location will not be billed in error.

During the billing operation, the billing machine develops a long total of the amount of revenue for each particular route. This total must agree with the predetermined total established on the tabulator, thereby proof is obtained that the correct amounts have been billed. One of the desirable features obtained by comparing the biller total of each route as it is billed with a predetermined amount is that it confines the checking of bills to one route in the event of machine trouble. This saves considerable time in locating billing errors and rebilling accounts.

Periodically throughout the month the cards are sorted into revenue class and rate order. The cards are then tabulated and summarized for report purposes. The tabulation is examined to see that the revenue is reported in the proper class. While this check does not necessarily per-

tain to billing, it does furnish proof that the revenue is included in the proper class and that certain rates have been reported thereunder.

As an internal check, a progress card is used on which is recorded the time required and errors made while handling the meter books during all operations. The information reported on these progress cards is summarized and used as a guide to determine whether or not the clerks are handling their particular work as accurately and efficiently as required.

To enable the districts as well as the billing department to supervise the billing work more closely in order that errors be kept at a minimum, a form known as a "Check Billing Record" is used. One of these records is prepared for each meter book and any questions in connection with an account or errors noted are entered thereon. When the districts note an error in the billing, they also report it to the billing department on the Check Billing Record. At the end of the month, in order to observe the trend of errors, they are summarized in report form. In the beginning it was found advisable to send a monthly record of errors to all districts. This showed the errors made in the billing department as well as in all offices. It was set up in comparative form to increase the incentive between offices to produce better results. Later the monthly report was dispensed with because the number of errors were substantially reduced. At the present time only an annual report of errors is sent out to the districts.

Since the tabulating equipment has been installed, a detailed record of all billing errors has been kept. As soon as errors were brought to our attention, steps were promptly taken to prevent their recurrence. To show what progress has been made towards eliminating errors the comparative table above may be informative.

Swiss Gas Man Dies

WALTER GRIMM, director of the Gas and Water Works at St. Gall, Switzerland, and former President of the Swiss Gas and Water Association, died on August 29, 1941. Funeral services were conducted on September 1 at St. Mangan Church in St. Gall followed by cremation.

Herr Grimm presided at the meeting of the Swiss Gas and Water Association at Zurich in 1934, which immediately preceded the Triennial meeting there of the International Gas Union.



Residential SECTION

E. J. BOYER, *Chairman*
B. A. SEIPLE, *Vice-Chairman*
J. W. WEST, JR., *Secretary*

Major Committees Present a Sales Preview for 1942

It's CP For You In 1942

THE Domestic Range Committee is a joint committee composed equally of gas utility men and gas range manufacturers. Its purpose is to promote modern gas cookery. Its promotional medium and the spearhead of its attack since August, 1938 is the finest cooking appliance yet developed that money can buy—the Certified Performance gas range. During the past few years, under the chairmanships of Frank Houston and George Scofield, this committee has devoted a major portion of its efforts and all of its available funds to CP range promotion. It has been assumed that an all-out effort is necessary to sell the best and that by so doing a general increase in sales of better gas ranges would be the attendant result. The record of range sales made during those years substantially supports this theory.

CP Range Sales Up 94%

Witness the first eight months of the current year in which CP gas ranges showed an increase of 94% over 1940. During this same period 50.8% more oven heat control ranges were sold by the CP manufacturers than were sold in 1940—a 50.8% increase in the sale of better gas ranges in general. The percentage of CP sales to oven heat control range sales was 13.21% in 1941—an increase of 2.94% over the preceding year.

Inspired by this precedent, your new committee is therefore proceeding in the belief—

1. That our purpose remains the same in spite of world-wide war, the national emergency, priorities and taxes; namely to promote modern gas cookery as effectively as possible.
2. That the Certified Performance gas range is our trump and that we should lead trump every trick.
3. That with any curtailment of range manufacture under the national emergency, our efforts to sell CP should be increased proportionately. Thus, if only 50% of 1941's production should be allowed in 1942, we should bend every effort to double the percentage of CP sales.
4. That retail appliance salesmen form our front line of the CP sales attack and

By WALLACE M. CHAMBERLAIN

Chairman, Domestic Range Committee

5. That these salesmen, backed by adequate advertising and given proper individual incentive, will carry the CP banner to newer and greater heights.
6. That close cooperation in all quarters is not only desirable, but also necessary to accomplish the best results.

On the basis of these points the gas utility members of the committee who are also the regional managers for promoting CP ranges in the eight geographical regions of the United States have appointed or re-appointed a CP promotional manager for each state.

As a step toward coordinated effort each state manager will organize a CP Sales Council for that state. This group will be composed of all gas company sales managers in the state and the district managers of CP range manufacturers. The state manager will hold meetings of the Sales Council from time to time to set up and to conduct a definite CP range promotion program through utilities and gas appliance dealers. This should serve as an excellent method for disseminating information and for solving problems peculiar to the locality through an interchange of ideas. It should also stimulate friendly rivalry and local pride of accomplishment. Through it a more effective and more economical schedule for A.G.A.E.M. field men could be devised. As a result of such joint thinking we might

A FEATURE of the Residential Section program in Atlantic City, October 20-22, was the "Residential Sales Preview," which consisted of a summary of committee activities planned for 1942. On the accompanying pages are reproduced the programs of four major committees as they were presented during the Annual Meeting. Other Residential Section committee activities will be covered in later issues of the A. G. A. MONTHLY.

even be able, in some measure, to emulate the prowess of California in CP sales through the dealer outlets. Whenever a meeting is called by a CP state manager, the regional manager will be present if at all possible.

Through A.G.A.E.M. we have a wealth of talent which has constantly been developing and executing new and better CP promotional plans, and will continue to do so. Even a perfunctory perusal of such items as this Fall's "Once Upon A Time" booklet and the materials contained therein will convince any good gas man of the ability of John Bogan and his staff. Jim Abrams, Advertising Director, comes in for special mention and if you have not taken advantage of the CP Audio Training course for your salesmen under Herb Watson's or Red Parker's able management, we strongly recommend it as an excellent start toward CP FOR YOU IN '42.

Cash Awards Continue

Under Commanding Director George Scofield, this past year has been a successful one for the CP Ranger Club. The Ranger News announces, that as of October 1, 624 Rangers had joined the rolls by virtue of having sold twenty-five CP ranges in 1941 or fifty in case of Star Rangers. A total of \$12,000 has been awarded in prizes for the first nine months of the current year. Through the generosity of the CP Range Manufacturers who provide a major portion of the funds this cash award plan for Rangers and Star Rangers will be continued in 1942. However, the system of Ranger Club pin awards will be simplified for clarity in identification. The new system is as follows:

- 25 CP Sales in one year—Bronze Ranger pin to be worn until
- 50 CP Sales are made in one year—Bronze Ranger pin with one diamond to be worn until
- 50 CP Sales in each of two years—Silver pin and two diamonds to be worn until
- 50 CP Sales in each of three years—Gold pin with three diamonds to be worn until
- 50 CP Sales in each of four years—Royal Ranger pin with four diamonds.

This eliminates five of the previous ten classifications, but enhances the value of

the five remaining and makes the whole program more understandable.

It is recommended that more thought be given by sales management to adequate ceremony in the presentation of CP pin awards and prize money. Could not this be done in group meetings of the entire sales department in the instance of larger properties with the president, vice-president or general manager personally making the presentation? How about a dinner appropriate to the occasion in smaller companies? In many instances the state or regional manager could arrange to be present. In no case should the winning of these coveted awards be treated lightly.

New Spring Sales Campaign

Possibly the big news in "CP For You in '42" is the fact that another big campaign of three months' duration is now being planned. This will again be a spring campaign to be held in March, April and May. Prize money for the campaign is expected to total \$3300. Thirty prizes ranging from \$75 to \$5 in the forms of defense bonds and stamps are being scheduled in each of the seven divisions to high salesmen in terms of installed CP range sales for the quarter. Prize awards will not be contingent upon membership in the Ranger Club.

The extremely popular all-expense trips to the A. G. A. convention will again be awarded to the utility sales leaders in each of the seven divisions who have the highest total of CP Range sales during the eight months from January 2 to August 31. This in itself creates a spirited campaign for the top-notchers during two-thirds of the year.

Also repeated will be the national competition for seven handsome divisional trophies to the utilities with the largest number of company and dealer CP range sales for the 1942 calendar year per 1000 one, two and three family domestic meters, and the National Gas Company Best Performance Award—won last year by Roanoke.

Entry to any or all of the competitive events for utility or dealer salesmen is provided through registration of the local gas utility in the CP Ranger Club. Registration fees are nominal and cover only a small cost of the program. With the rising cost of everything and with the spring campaign contemplated it has been necessary to adjust the registration fees upward approximately 50%. Make certain it is "CP For You in '42" and you'll get your money's worth. It is a proven fact that aggressive CP gas range promotion not only sells better gas ranges, but that it is also the one sure means of protecting and increasing the domestic cooking load.

The gas companies which have taken an active part in promoting CP during the past few years fully realize its value. May

I close, by saying to those who have not been participating in this program and to those who have made only a half-hearted attempt at it only to subsequently "die on the vine," that the hour has come to jump on the CP bandwagon with both feet. The groundwork has been laid. Long since has the experimental stage been passed. Public acceptance has been obtained to a large degree. Your market is established—and

we have reached that point that you have been waiting for—when the "other guy" has done the toughest part of the job and you can cash in on it without as much effort or expense as has been heretofore necessary.

The CP range is here to stay
To build more load for me—for you
Get behind it—make it pay
"CP For You in '42."

A Flexible Program for Gas Refrigeration

By C. V. SORENSON

Chairman, Refrigeration Committee



C. V. Sorenson

A YEAR ago the Refrigeration Committee reported that it planned to continue its efforts along lines which had previously been successful, and that the greatest single factor of its program would be the continued promotion of a year-around activity.

That this plan was wisely chosen is reflected in the data contained in the "Refrigeration Portfolio" now being distributed. This portfolio shows that during 1941 more meters were registered, a greater number of gas companies registered, more retail salesmen were entered in the contest than ever before, and finally, "the sale of gas refrigeration during 1941 was the largest in the history of the industry." The important point to be brought out here is that by adopting a definite plan and sticking to it results have been achieved, and in the coming year, more than ever before, it will be necessary to drive for continued good refrigeration results.

Deferred payment terms have been reduced, and production will be reduced, but to what extent we can only guess. This will affect merchandise volume, but more important, it will affect future revenues. The industry must meet these conditions as they arise, somehow, somehow. In other words, we must "keep 'em flying." The Refrigeration Committee plans to do everything possible to be of assistance to the industry while these unusual conditions exist.

A lack of merchandise to sell will make it impractical to continue the company and best performance awards on the old basis, but a new basis of best performance awards is being planned to recognize those companies "who, through local effort, further advance in the minds of the public the gas industry in general and the gas refrigerator

in particular." It is hoped that these awards will make it possible not only to sell all the refrigerators available, but recognize in each division the most constructive job of impressing on our customers the value of gas service and gas refrigeration, in order that the industry may retain, or even improve, its high standing in the minds of its customers.

Some further refinements have been made in the classification of participating companies, based on past experience, in an effort to make competition between retail salesmen on the fairest basis possible.

Sales Training Feature

Sales training will have an important place in the plans of the committee. Based on information collected from the survey among 750 salesmen in 35 representative cities, a salesmen's self-improvement course will be available, which should prove to be the finest and most helpful material of its kind ever offered. Further, the committee hopes to make available sales training material for the employees of the industry, which will make them much better qualified to do their part in promoting the sale of gas service. A number of companies have indicated that they consider the immediate future an ideal time to conduct intensive training programs.

The "replacement" and "apartment house" market studies represent a great deal of work on the part of the 1940 Committee, and the new committee will be prepared to continue this type of work to the extent desired by member companies.

In selecting the membership of the new committee, careful consideration was given to the fact that it is impossible, under present conditions, to outline a specific program for a year in advance; and therefore the new committee has been chosen to give complete geographic representation throughout the country. Each committee member will function as a geographic representative, and it is desired that member companies feel free to refer problems and recommendations to them. In this manner the committee hopes to keep in very close touch with the problems and individual company-thinking in all parts of the country. Organization ar-

rangements are being made to give prompt attention to all questions and suggestions.

In order that member companies may be kept abreast of current developments, the committee plans to circulate information letters at frequent intervals to gas company executives and sales managers. These letters will be designed "to keep the industry posted on current developments and trends in the automatic refrigeration field," in an effort "to aid them in maintaining and de-

veloping the prevailing market for gas refrigerators."

The foregoing plans should permit the necessary flexibility to cope with rapidly changing conditions, and the committee feels that if the member companies of the industry will face its new problems in the same energy and determination as has been the case in the past, gas service in the home, and particularly gas refrigeration service, will rise to new levels in the future.

service workers in the promotion of water heaters and providing them with definite selling points to make customers as conscious of correct water temperatures as they are now conscious of correct cooking and refrigeration temperatures. The distribution of this material will be particularly timely now when national health authorities are establishing standards of water heating service for army camps and other defense units.

The committee was informed by E. J. Boyer, the incoming chairman of the Residential Section, who is sales manager of the Minneapolis Gas Light Company, that at the present time his company is preparing an elaborate sales manual to be used by the water heater salesmen in their areas. Mr. Boyer has most generously offered the committee this manual so that in turn it can pass it on to the member companies with any modification that the committee may find advisable to make it of general value.

The principal problem in the promotion of water heaters at the present time by the industry is quite evidently the difficulty in securing water heaters and the committee will keep closely in touch with the Water Heater Division of the A.G.A.E.M. at all times for the purpose of aiding them in their endeavors to maintain the level of water heater production at the highest possible point.

Water Heating Committee Activities

By JACK TORBERT

Chairman, Water Heating Committee

THE Water Heating Committee met Sunday afternoon, October 19; both utilities and the manufacturers were represented on the committee and a full attendance was present. After a great deal of discussion the committee decided to further the CP water heater program set up by the previous committee headed up by B. A. Seiple and it was decided that a special subcommittee should be appointed to work with a similar group from the appliance manufacturers' association to keep the CP program alive and in the minds of the industry during the emergency. It is the plan of the committee to prepare and keep in readiness a set of CP water heater requirements that will be acceptable to the gas utilities and the manufacturers so that this program can be inaugurated at the end of the present emergency.

It gave the committee a great deal of satisfaction to hear the united opinion of the panel at the Monday morning session of the Residential Section that the section should complete the preparation of Certified Performance programs for the water heating and house heating fields.

Aim for Government Business

The committee will direct its efforts primarily on ways and means of securing the most favorable consideration of water heater production by the government bureaus having this matter under their control.

A bulletin will be sent out shortly to sales managers advising them of the proper method of reporting the water heaters sold in direct and indirect defense projects and telling them how to file this information with the water heater manufacturer so that he can obtain exemption for these heaters from his priority or allocation quota.

In addition, the committee will shortly undertake a survey of the sale of gas appliances, including water heaters, to indicate the number and the percentage of such appliances that have been installed in defense areas during the past two or three months. It is felt that this information will be helpful in securing the most favorable consideration of water heaters from the standpoint of priority and allocation of materials.

The Water Heater Division of the Asso-

ciation of Gas Appliance and Equipment Manufacturers is now preparing an impressive story of the essential nature of water heating from the viewpoint of its effect on public health and the Water Heater Committee of the A. G. A. will furnish certain data for inclusion in the presentation and work with the manufacturers' group in its completion.

The Water Heater Committee appreciates the plans of the Home Service Committee of the A. G. A. to prepare pamphlets or literature for the purpose of aiding home

House Heating Program for 1942

By WALTER L. JONES

Chairman, House Heating and Winter Air Conditioning Committee



W. L. Jones

DURING the past ten years we have all witnessed a tremendous growth in our house heating business. Taking the industry as a whole, more than 20% of our customers now heat their homes with gas and many factors point to a continuation, even an acceleration, of this

swing to gas heating.

What is the reason for this growth? The answer is that our customers prefer gas heating because gas offers the finest heating service available. This being the case, it is squarely up to us to deliver the service which they expect. Excuses have no place in the picture—and there need be no excuses if the customer has properly designed equipment, properly installed. But how is the customer to know what is superior equipment and what is not—what is a good

installation and what is a poor one?

In areas where there is a large amount of speculative building this problem may be especially acute. Just as one bad apple in the barrel may spoil the lot, so one builder installing low quality gas heating installations may make it necessary for the others to trim their specifications in order to compete in the sale of the finished home.

Two years ago the house heating committee, with J. G. Tooker as chairman, undertook, along with other activities, the development of a Certified Performance heating program for the industry. The committee has worked on this problem during the past two years. Much has been accomplished. Through the cooperation of manufacturer and utility representatives most of the warm air furnace requirements have been tentatively agreed upon. And yet there is much to be done before the program is ready to be presented to the industry.

It is important that this work be continued. Recently the committee sent out a questionnaire to sales executives of our industry. To the first question—"Do you feel that your company will profit by a National Certified Performance heating program?"—the answer was almost unanimously "Yes." To the question—"Will your company support a program of this nature locally by promoting the sale of such Certified Per-

formance heating equipment; and its proper installation"—the answer was almost unanimously "Yes."

In view of the need for a program of this kind and the wide interest now manifested in it, the house heating committee for next year has been requested to continue the development of a Certified Performance heating program.

When this idea first came to my attention it was my opinion, and many others expressed the same opinion to me, that it would be difficult to adapt such a program to varying local conditions. Further study, however, leads me to believe that sufficient flexibility can be incorporated into the plan to entirely overcome this objection. As we now see it, the program can be subdivided into four interrelated activities.

1. Certified Performance standards must be established for warm air furnaces, boilers, floor furnaces, unit heaters, and circulating heaters. Warm air furnaces will be considered first and, these, as previously mentioned, are practically completed.

2. Installation standards must be established. Here again, as far as warm air furnaces are concerned, the job is well along.

3. A plan must be developed for using these equipment and installation standards when they are ready.

4. A publicity program must be inaugurated to acquaint the industry and our customers with Certified Performance Heating.

In an article in the September issue of the AMERICAN GAS ASSOCIATION MONTHLY, Mr. Tooker, chairman of the 1940 and 1941 House Heating Committee, said:

"I think the term 'Certified Performance' should be made to mean to our customers, the best service that the industry as a whole can provide in units of quality per dollar of cost. The addition of house heating to the CP standard in itself would take on a new significance to our customers. The CP national program whether it be gas ranges, house heating, water heating, or refrigeration, is not going to be achieved overnight. Witness three years' progress of the CP range program. Achievements of this program have been remarkable but what per cent of your customers can tell you now what a Certified Performance gas range is? The public must be educated, and that is a slow process.

"We believe a national Certified Performance heating program is desirable and necessary. We believe that the cost of policing will be a fraction of what it will save our operating companies. We believe such a program to be essential to the growth and permanency of the house heating load, and we believe that it should be inaugurated now."

Your 1942 committee expects to promote the development of this program. In this I am sure that we will have your enthusiastic support. When the appropriate time comes to launch the program it is expected that it will be ready.

Regional CP Managers Selected for 1942

- H. Vinton Potter, Oklahoma Natural Gas Company, Tulsa, Okla.
- W. E. Bolte, Brooklyn Union Gas Company, Brooklyn, N. Y.
- J. W. Lea, Atlanta Gas Light Company, Atlanta, Ga.
- C. F. Henness, Public Service Co. of No. Ill., Chicago, Ill.
- W. L. Hayes, Montana-Dakota Utilities Co., Minneapolis, Minn.
- C. C. Young, The Gas Service Co., Kansas City, Mo.
- J. R. Guidroz, New Orleans Public Service Inc., New Orleans, La.
- W. M. Jacobs, Southern California Gas Co., Los Angeles, Calif.

Scofield Honored for CP Leadership



George L. Scofield

A SPECIAL feature of the annual meeting of the American Gas Association in October was the presentation of an engraved gold watch to George L. Scofield, retiring chairman of the Domestic Range Committee, for his leadership of the Certified Performance Range Campaign during the last two years. The watch was studded with 22 diamonds which are symbolic of the 22 requirements of the CP Ranges.

In announcing the award, Chairman R. J. Rutherford also acknowledged the debt owed to S. B. Severson, general manager of the Republic Light, Heat and Power Co., Buffalo, N. Y., who made it possible for Mr. Scofield, the company's sales manager, to devote the necessary time and traveling to the work.

Gas Range Change

MANUFACTURERS have been asked to eliminate steel cover lids from domestic cooking ranges by December 15, 1941, the Office of Price Administration and the Division of Civilian Supply, Office of Production Management, announced on Nov. 9.

These tops, usually finished in baked enamel, are used on many gas, electric, kerosene, and gasoline stoves to cover the cooking surface when the stove is not in use.

By discontinuing these covers, manufacturers will reduce production costs and at



The two millionth gas refrigerator from the assembly lines of Servel, Inc., at Evansville, Ind., is shown with Princess Alexandra Kropotkin, well known author, in the lobby of an Evansville hotel where the refrigerator was placed on display for the people of that city

the same time make available for more essential uses about 2,500 tons of steel a year.

Home Service in the Defense Program



Jessie McQueen

HOME service women have a special opportunity today to stress the importance of correct food and better nutrition for national defense and to adapt their work to the preparedness program, Jessie McQueen, home service counsellor, American Gas Association, points out in an article on page 579 of the *Journal of Home Economics* for October. Miss McQueen contributes the home service viewpoint to a symposium on "Gearing Household Equipment Programs to the Present Defense Needs."

As pointed out by Miss McQueen, more than 600 gas companies in the United States and Canada maintain home service departments. The directors of these departments, together with their assistants, total about 1,500 women trained in home economics and available to the women of local communities for assistance and cooperation.



Industrial & Commercial Gas SECTION

GEORGE F. B. OWENS, *Chairman*
B. H. GARDNER, *Vice-Chairman*
EUGENE D. MILENER, *Secretary*

Commercial Heating and Sales Opportunities Hold Spotlight at A. G. A. Annual Meeting

AT the industrial and commercial gas session of the A. G. A. annual meeting in Atlantic City, commercial space heating with gas was presented in an interesting and instructive manner by Charles F. Spicer, vice-president and general sales manager, The Moore Corporation, and Elroy L. Payne, vice-president and general manager, Payne Furnace & Supply Co. Each discussed the topic, "Increasing Your Heating Business in Commercial Establishments," and each drew on his wealth of experience in both manufactured and natural gas areas.

Mr. Spicer contended that gas companies that are not intensively working to put the maximum quantity of commercial heating on their lines are overlooking a profitable bet, and observed that "Gas heating equipment is available that has been scientifically designed for each type of application necessary for each individual commercial requirement; all better built, more attractive and giving better performance than in the past, and at a lower operating cost."

He urged that accurate market analyses and surveys be made, but cautioned that such activities would not produce business unless followed up by good direct mail pieces, and well-posted, well-trained sales people and engineers. To prove his point on surveys Mr. Spicer gave examples of successful campaigns based on them, and analyzed the various types of commercial establishments and the peculiarities of each. Campaigns, however, do not replace regular sales work and regular promotion, said Mr. Spicer, and he left his audience with one overall thought, "We must keep on telling, if we expect to keep on selling."

Mr. Payne said that in his opinion no public acceptance of gas as a heating medium in commercial places can be expected

unless four points are clearly established. The four points, which he elaborately presented, can be boiled down to: properly *selling* each job, correctly *sizing* each job, properly *installing* each job, and properly *servicing* each job. The audience, before Mr. Payne got through, had a pretty good idea of what is necessary to build up those four points in different kinds of communities.

Technically Mr. Payne presented a series of interesting installation drawings that were described. These excited keen interest because, as was pointed out, almost every commercial gas heating installation presents its own engineering problems and its own opportunity to exercise judgments.

It was agreed by all present that Mr. Spicer and Mr. Payne between them had made one of the best presentations on gas commercial space heating that had been given for a long time.

Keune on Commercial Sales

O. Fred Keune, the dynamic sales manager of Florida Power & Light Co., Miami, talked on "Opportunities I See for Selling Commercial Gas." His talk clearly showed that he not only sees opportunities in this broad field, but that the sales force under his leadership seizes these opportunities and builds up new gas loads.

Illustrating his whole talk with a well-selected set of sketches and data, Mr. Keune never lost sight of the theme that the breaks play an important part in any selling work. But there are different kinds of breaks and Fred concluded with a straight-from-the-shoulder statement—"Gentlemen, you've got to make your own breaks."

Mr. Keune's paper will be published in full in a later issue of the MONTHLY.

E. D. M.

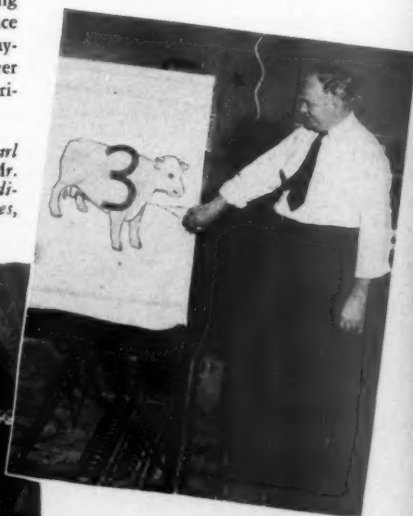
Sorby Makes a Ten Strike With Commercial Appliances

WHEN Carl Sorby stepped through the big yellow gas flame and star studded door, surrounded by nearly a dozen stream-lined commercial gas appliances, and marched through a large, seething group of people in a modern restaurant stage setting, he announced with a suitable demonstrative side performance that he was stepping into a new role. But the large audience crowded into the Rose Room at the Traymore Hotel all agreed before it was over that Carl is as much at home with steri-

lizers, broiler-grilles, dry steam tables, and revolving toasters as he is with the gas ranges his company makes and which he so successfully promotes.

Carl Sorby had a story to tell at the Industrial and Commercial Gas Section's final

A dramatic scene in the presentation of new counter gas appliances during which Carl Sorby points out five attractive stars of gas commercial cooking and baking. At right, Mr. Sorby illustrates how the average person eats three husky steers during a lifetime in addition to 6,000 loaves of bread, 300 chickens, 2,000 large fish, 9,000 pounds of potatoes, 12,000 quarts of coffee, 1,000 pounds of salt and 8,000 pounds of sugar



session at the A. G. A. annual meeting, and he told it in a way that no one present could forget. Using the topic, "The New Counter Gas Appliances—Your Tools for Future Business—See 'Em! Know 'Em! Sell 'Em!", he pointed out how the trend of commercial cooking has been away from the range, as such and that more commercial cooking is being done with specialized apparatus than ever before. He pointed out that during the last five years, all counter, as well as the larger gas commercial cooking and baking appliances, have been drastically modernized—looks, speed, control, and adaptability to modern quantity cooking surroundings.

As the men and women walking on the stage and sitting slowly dispersed into the wings, Mr. Sorby reminded his audience that during a lifetime each person consumes more than one hundred tons of food and thousands of quarts of liquids. This is nearly all prepared with heat. Visually showing what these immense quantities of food meant, he drove the point home by dramatizing how five full years of a lifetime is spent stuffing it down one's throat.

Array of Counter Appliances

Many in the audience had never before seen a complete array of the modernized and improved miscellaneous gas cooking, warming and sterilizing appliances. They not only saw, but they were told a lot of things that were worth remembering about each appliance—how one small broiler-grille, for instance, will fry, broil, toast, boil, and do a lot of other cooking tricks to please the appetite of dozens of people. He showed how no metal ever touches the coffee in the new and beautiful gas coffee urns, and how the steam in steam tables is a thing of the past. The stunts these young men do who cook hamburgers, hot cakes, etc., on new gas griddles in all night food stands were highlighted, and the help they now get from thermostatically controlled griddle temperatures was impressed on the audience.

An interesting example of how quan-
(Continued on page 456)

Hudson W. Reed (fourth from right), executive vice-president, The Philadelphia Gas Works Co., and other speakers at the annual Industrial Gas Breakfast during the metal exposition



An over-all view of the Combined Gas Exhibit at the National Metal Congress and Exposition in Philadelphia

Industrial Gas Gives Striking Show at National Metal Exposition



F. H. Trembly, Jr.

exposition's history. As the day and night periods went on during the week of October 20, it soon became evident that the crowds of interested metallurgists, engineers, plant officials, foremen and superintendents were also breaking records at this gathering of production men from every state in the Union and every province of Canada.

Production was the keynote of the 1941 National Metal Congress & Exposition—production of metals and of metal arms and armament for national defense—with 110,000 square feet of metal-treating furnaces and machinery for manufacturing every metallic article from brass buttons to completed tanks. Interspersed with the array of furnaces, ovens, welding and cutting equipment were proudly displayed thousands of products of the Arsenal of Democracy. Steel, iron, copper, aluminum, magnesium, and the newer alloys that have so mystified the public these last few years were all shown being heat-treated and formed into impressive looking weapons

for Army, Navy, Merchant Marine and civilian use.

The A. G. A. Combined Industrial Gas Exhibit brilliantly portrayed the part gas and gas equipment is playing in arming the nation. All decorations and displays were pure white with blue trim and touches of red. In fact, the white theme was carried as far as having dozens of industrial burners and miscellaneous pieces of gas apparatus painted white, as were large annealing furnaces weighing six tons each and standing over seven feet high.

Most of the gas equipment was in operation. Demonstrations were constantly being given. These showed big blast burners with

(Continued on page 456)

Telegram from Steel Treating Show

Philadelphia, Pa.
October 24, 1941

THE manufacturers in the Combined Industrial Gas Exhibit at The American Society for Metals Convention hereby express their appreciation for the opportunity to participate in this impressive combined exhibit.

We believe that increased values accrue to the individual exhibitors and to the gas industry as a whole from this Combined Industrial Gas Exhibit.

Sincerely for the Manufacturers—

PHILIP C. OSTERMAN,
Chairman Industrial Gas
Division, A.G.A.E.M.



One corner of the American Gas Association Combined Gas Exhibit at the National Hotel Exposition—visited by thousands of owners and operators throughout the country. (Center) President George S. Hawley examining new models of commercial cooking equipment being demonstrated by Walter D. Crouch, Robertshaw Thermostat



Company. (Right) Streamlined gas bake oven, fryers and confectionary stoves in exhibit of New York City's Food Trade Vocational High School, showing how 800 cooks and bakers are trained each year. Equipment was supplied by Blodgett, Pitman and Vulcan.

Food Service for Defense Kitchens Featured at Hotel Exposition

AT the National Hotel Exposition, held at Grand Central Palace, New York City, November 10-14, the year's best opportunity was offered the gas industry to present the latest in gas-fueled food service equipment to leading hotel and restaurant men engaged in both civilian and national defense work. And, through the medium of an A. G. A. Combined Gas Exhibit, organized and sponsored by the Industrial and Commercial Gas Section of the American Gas Association, the part gas is playing in large scale food preparation in national defense operations was highlighted—with no less than 44 up-to-the-minute gas units for commercial cooking on display in a single exhibit before many thousands of users or potential users.

Latest Models Shown

Separate sections of the space at the foot of a giant sawtooth backwall, filling the entire north side of the main exhibit floor, were utilized by J. C. Pitman & Sons, Inc., Standard Gas Equipment Corp., The G. S. Blodgett Co., Inc., Detroit Michigan Stove Co., American Stove Co., and Ershler & Krukin, Inc. The latest models shown by the manufacturers included: dry steam tables; deck ovens; open-top heavy-duty range sections; closed-top heavy-duty range sections; both uniform-heat-tops and center-fired hot-tops being included; fry tops; broilers; salamanders; range ovens; finishing ovens; cafe range sections; deep fat fryers; counter fryers; and doughnut fryers. In the attractive treatment of the high backwall, a color scheme and a use of the word GAS caught the attention of visitors from all over the first floor of Grand Central Palace.

At right angles to the length of the display and covering 30 ft. of front end-wall was an American Gas Association panel, proclaiming gas an automatic, fast-heating, economical fuel. Six component panels in this area featured the virtues of gas for cooking, water heating, space heating, re-

frigeration, processing and manufacturing, and air conditioning.

Features in the displayed equipment which attracted favorable comment from restaurateurs and kitchen operators were, for example: the Blodgett individually controlled deck ovens, redesigned and re-engineered for greater oven flexibility . . . Vulcan's "expando" combination broiler and griddle unit . . . Magic Chef's new, improved even-heat burner construction cou-

pled with ceramic radiants which increase the intensity of heat . . . Frialator's new small model doughnut fryer (20" x 20"), especially designed for the small baker, and producing 40 doz. doughnuts per hour . . . Garland's new type flexible open-top burners . . . Vulcan's new baffle construction of the immersed heating tubes of deep fat fryers, providing a positive method of distributing heat more evenly around the circumference of the tubes . . . the waterless Thermolator steam table, which offers sectional firing of various groups of canisters and trays, reduced fuel consumptions, faster food warming-up times, and less heat

(Continued on page 456)

Modern Gas Equipment Scores Hit at Restaurant Exposition

IT is by means of individual national exhibitions that the great industrial and commercial customer groups are directly reached in one of the most effective ways with the story of gas and gas equipment. Each year the Industrial and Commercial Gas Section of the American Gas Association, as one of its promotional activities on behalf of the industry, organizes and conducts exhibits at three or more national exhibitions each year.

The individuals and companies in different industrial and commercial customer groups have much in common. Not only the leaders, but thousands of rank and file business men attend the national exhibits and meetings of their industry. One example is the National Restaurant Exposition. For an entire week each year owners, operators and chefs of restaurants, institutions, hospitals, clubs, etc., gather to learn what's new in their business and to see new and improved equipment of all kinds that can be used in their trade.

The A. G. A. exhibit at this year's National Restaurant Exposition was brilliantly colored and appropriately lighted in line with up-to-date restaurant and hotel decora-

tion and to effectively bring out the modernity and style of counter and other miscellaneous gas food service equipment.

Griddles, with new thermostatic top surface control; sterilizers which give assurance that health codes will be met; broiler-grilles, that do so much cooking and so many different kinds of cooking in such small spaces; toasters, that evenly brown hundreds of slices in an hour; glass coffee makers, that make the most delicious cups of coffee; these and other devices were shown to advantage and examined by owners of food service establishments who had come from every corner of the land.

Members of the Food Service Equipment Committee of the Industrial and Commercial Gas Section were present and assisted representatives of equipment manufacturing concerns in explaining the valuable features of the appliances shown and of gas service in this field.

Attendance at the National Restaurant Exposition, which was held in The Furniture Mart, Chicago, was very large. Many sales of gas appliances were made to visitors and a large number of prospects were secured by the cooperating manufacturers.



The Managing Committee welcomed Jimmy Dare, Harold Duguid and Harry Woolman as new members at its meeting. Frank Kelly attended his first meeting and graced the head table at breakfast.

As mob scene members during Carl Sorby's commercial cooking demonstration, the Managing Committee did itself proud. Somebody said they were used to mob scenes.

Biggest Metal Exposition in history, the biggest crowd ever, and the most colorful Industrial Gas Exhibit within memory was the verdict of those who attended this mammoth business event. That furnace atmosphere session was especially worth attending.

Late comers felt pretty sheepish at the Industrial Gas Breakfast during the National Metal Congress. One hundred and twenty men gave the lie to those who said eight-thirty was too early during a hard week.

Gas substitutes for manganese!—Due to a shortage of this key metal, all shells must now be heat-treated. Gas was "Johnny-on-the-spot" when that order was issued recently.

Rochester's idea for starting refunds on defense main extensions after the emergency sounds like a mighty good idea. Our customers will need that cushion then.

Carl Wolf is receiving many congratulations on the way he handled the Section this year. All deserved, too.

Even the manufacturers of counter appliances got an earful of new ideas about their own equipment when Carl Sorby got into action at Atlantic City. It was worth the price of admission to see Dave Goldstein trying to keep still.

J. P. Leinroth, after fourteen years, finally won the "Leinroth Trophy" at the Public Service of New Jersey outing. What's the matter, J. P., are all the other fellows getting too old for violent exercise?

"The Meter" of the Florida-Georgia Gas Meters Association is just about the chattiest, brightest, liveliest magazine of its kind. The gas industry has nothing to fear as long as "The Meter" is published.

Young blood to the fore!—They do say Chairman Bob LeMay of the Metal Treating & Melting Committee is about the youngest member of that group. Good looking, too.

Speaking of Texas, the Ozark Chemical Company at Monahans has a whopping big submerged combustion installation for manufacturing anhydrous sodium sulphate. Who says this industry of ours isn't doing things? We call burning gas under salt water a real development.

After the first meeting of the Committee on Industrial Space Heating, Chairman Jimmy Dare said, "I have never had the pleasure before of working with such a cooperative and industrious group of men." Nice work, fellows—and see that Jimmy says that at the end of this year.

Those forty men on duty at the A. G. A. Combined Exhibit at the National Hotel Exposition worked hard day and night. Gas men are still debating which was the best Exposition, the National Hotel or the National Restaurant. Both produced their full share of business.

Elmer May of New Orleans is the new Chairman of the Technical Advisory Committee on Summer Air Conditioning Research. There's a fellow who knows his stuff.

George Ballard has put plenty of zip in the Midwest Industrial Gas Sales Council this year.

A veritable hand book to use for years is the Volume Water Heating Committee's report on mechanical dish washing. Have you studied it yet?

Dean of gas hotel and restaurant men is Jerry Healy of Springfield, Massachusetts. No national show in those fields would be a success without him.

INDUSTRIAL AND COMMERCIAL NATIONAL GAS ADVERTISING FOR DECEMBER

The National Advertising Committee of the Industrial and Commercial Gas Section, J. P. Leinroth, chairman, and F. B. Jones, vice-chairman, announces that full-page advertisements will appear in the trade and business magazines listed below during the month of December. These advertisements, which will appear in 16 publications reaching a total audience of 288,587, are prepared in co-operation with the Committee on National Advertising as a part of the Association's national advertising campaign.

General Manufacturing

BUSINESS WEEK (Dec. 27— $\frac{3}{4}$ page ad)—Here's how to step up your production *without enlarging your plant!* Use modern high-speed GAS equipment.

Ceramic Industry

CERAMIC INDUSTRY—"Close mechanical control, much improved finished product and cleanliness recommend GAS equipment." National Tile Co., Anderson, Indiana.

Baking Industry

BAKERS' WEEKLY (Dec. 13)—For bakeries whose customers are particular . . . Modern GAS equipment.

Metals Industry

THE IRON AGE (Dec. 11)—Behind famous Warner and Swasey turret lathes . . . speedy, dependable
STEEL (Dec. 22)
METAL PROGRESS GAS.
INDUSTRIAL HEATING

Hotel and Restaurant Field

HOTEL MANAGEMENT—In Miami Beach's 200 Hotels and 250 Restaurants . . . GAS cooking is king!

CHAIN STORE AGE (Fountain and Restaurant Section)—From fourteen-hour shutdown to 450 degrees in thirty minutes, is prominent Drug chain's experience with GAS-fired oven.



Technical SECTION

HAROLD L. GAIDRY, *Chairman*
J. H. WOLFE, *Vice-Chairman*
A. GORDON KING, *Secretary*

Technical Section Launches Its 1942 Program

By A. GORDON KING
Secretary



D. P. Hartson (right), retiring chairman of the Technical Section, presenting an engraved gavel to his successor, Harold L. Gaidry

Chairman Gaidry tries out his new gavel for the first time to the amusement of onlookers Gladys Hanshaw, Mr. Hartson, F. M. Goodwin, and R. E. Kruger



NOVEMBER 12, 13 and 14 saw the officers and committee members of the Technical Section busily engaged in launching the 1941-'42 program of activities.

This year, as a result of the Managing and Advisory Committees' action at its May meeting the vice-chairman of the Section and committees had all the preliminary details well along. During the annual meeting at Atlantic City these plans were crystallized so that the organization meetings have enabled the Section to make an early and well-equipped start on its work.

All the meetings were well attended by company, state association and other repre-

sentatives from all over the United States; from the Dominion to the North came our very good friends E. J. Tucker and J. D. von Maur of Toronto.

Among the highlights of the meetings were presentations to Chairman H. L. Gaidry and immediate past Chairman Dorr P. Hartson.

Former Chairman F. M. Goodwin, making a special trip for the occasion, presented, on behalf of the officers of the Section, a suitably engraved desk set to retiring Chairman Hartson. Mr. Goodwin, in his usual facile and felicitous style, expressed the appreciation and affection of the Section for Mr. Hartson's devoted ef-

forts on behalf of the Section and its best interest which were a part of his contribution to its continued welfare.

Later in the morning Mr. Hartson in well chosen words gave Chairman Gaidry an engraved gavel as a symbolic token of his new responsibilities.

The Chemical Committee, under the leadership of Chairman R. J. Sheridan, The Brooklyn Union Gas Company, and Vice-Chairman T. L. Robey, Washington Gas Light Company contemplates (a) continuation of studies and further work in Fuel Flue Gases handbook; Opperman Chemical Index; new ideas and "wrinkles"; meter diaphragms and dressings, (b) thought was given to, and in some cases work will be undertaken, in connection with further opportunities for publishing chemical information; pilot outages; cooperation with carbonizing committee on stresses and strains during carbonization; gas as a raw material.

The Subcommittee on Revision of Gas Chemist's Handbook held an active and well-attended meeting with past Chairman E. L. Sweeney presiding.

The Gas Conditioning Committee, H. D. Lehman, The Philadelphia Gas Works Co., chairman, considered much of the practical side of gas quality; the development and adoption of protective measures against gum problems in the field and at the production plant. Further studies and work on sulphur elimination and dust control are planned. Chairman Lehman reported satisfactory liaison with the Approval Requirements Committee and the A. G. A. Testing Laboratories.

Managing Committee luncheon group, photographed during the Technical Section organization meetings in New York. Left to right, around the table: Charles W. Beggs; T. L. Robey, R. J. Sheridan, Dr. C. W. Wilson, Dr. A. R. Powell, C. F. Turner, C. S. Goldsmith, James M. Beall, Dr. W. C. Schroeder, H. W. Nicolson,

H. G. Horstman, H. O. Andrew, and L. E. Kowilton. Standing: E. V. Kesinger, H. D. Lehman, J. D. von Maur, H. L. Gaidry, chairman, Technical Section, K. Fuery, E. L. Sweeney, S. P. Cobb, G. Hanshaw, J. H. Wolfe, vice-chairman, Technical Section, D. P. Hartson, and H. B. Andersen.





The five scenes above and at right were snapped during the demonstration of The Brooklyn Union Gas Company's defense preparations staged especially for the Technical Section managing group in the presence of high ranking members of the city's fire and police departments. George F. B. Owens, assistant vice-president, and chairman, Defense Committee, (top left) presents a general outline of the program while W. H. Weber, co-chairman, Defense Committee, and President Clifford E. Paige act as hosts to the gathering. Mr. Weber is shown again in the next picture explaining the program to fire department officers. Top right and right are two views of the grease gun in action, plugging broken gas mains. Among those watching in the upper picture are: J. D. von Maur, F. M. Goodwin, F. B. Parke, A. B. Huyck, A. S. Hall, and L. E. Knowlton. The realism of the demonstration was enhanced by the scream of sirens on radio patrol cars, and a fire engine and the presence of about 40 uniformed firemen and police officers. The firemen laid their hose lines and the police officers, assisted by Defense Corps members, kept spectators at a safe distance and prepared for other emergency action. The demonstration was similar to one given for supervisory men on September 23 except that actual emergency conditions were simulated to a greater degree through the participation of police and firemen. A detailed account of the defense program appeared in the November issue of the A. G. A. MONTHLY



Typical scenes during the Technical Section meetings. (Left) T. L. Robey, Washington, and R. J. Sheridan, Brooklyn, vice-chairman and chairman, respectively, of the Chemical Committee, go over their program with Kathleen Fuery, secretary. (Center) A quartet from the New Haven Gas Light Company: Carl F. Sucher, H. G. Husted, J. Elder and R. K. McArthur. (Right) Past Technical Section Chairman J. V. Pastles, Philadelphia; H. B. Noyes, Washington; G. M. Price, Washington; and H. T. Jayne, Philadelphia



A visitor from Canada, Edward J. Tucker (right), general manager of the Consumers Gas Co. of Toronto, Ontario, talks things over with S. P. Cobb of New York



(Left) C. S. Goldsmith, chairman, Distribution Committee, and H. B. Andersen, vice-chairman. (Center) A. V. Smith, Philadelphia, and C. F. Turner, Cleveland. (Right)—Left to right, seated: Prof. J. J. Morgan, Columbia University; L. M. Van der Pyle,

Pittsburgh; Dr. Frank Dotterweich, Texas College of Arts and Industries. Standing: W. R. Fraser, Detroit; R. F. Tenney, Minnecola; and Prof. Wilbert J. Huff, U. S. Bureau of Mines

The Distribution Committee, Chairman C. S. Goldsmith, The Brooklyn Union Gas Company, and H. B. Andersen, vice-chairman, The Philadelphia Gas Works Company, topped off a full morning program by an afternoon plant inspection featuring national defense in the gas industry.

The program for the 1942 Distribution Conference was considered and by individual "quizzing" of those present the most immediately pressing problems were listed. Included were meter "life," substitute metals, priorities, etc.

Following a quick lunch, two bus-loads of members and guests visited the Citizens' Branch of The Brooklyn Union Gas Company (Atlantic Avenue and Cleveland Street) for addresses and field demonstration on national defense procedure developed by the Brooklyn company. The delegates were welcomed by President Clifford E. Paige and the various phases of the work were ably described by George F. B. Owens, Wilfred H. Weber, C. E. Cheeseman and Joseph F. Miller.

Emergency Technique Shown

Following the showing of slides by C. S. Goldsmith, a realistic demonstration was arranged in the adjacent yard where flaming gas mains were expeditiously extinguished by well trained personnel. Full and illustrated details may be noted in the November issue of the A. G. A. MONTHLY (page 378).

It was fitting that in the field demonstration of the grease gun extinguishing method the originator of the method was present in the person of H. B. Andersen, vice-chairman of the Distribution Committee.*

The Gas Production Committee, R. H. Arndt, chairman, Consolidated Gas Electric Light and Power Company of Baltimore, discussed, among the numerous items on the agenda, toluol production in the emergency; the Production and Chemical Committee conference; peak loads, and raw materials in the national emergency.

The Work on Customers' Premises Subcommittee, H. W. Nicolson, chairman, Public Service Electric & Gas Company, in assuming a new name initiated studies on appliance part replacement policies, special tools to expedite work, individual regulators, selecting personnel, substitute materials. Many other subjects are also included in the "must-do" list.

The Motor Vehicle Committee reported through the chairman, Jean Y. Ray, Virginia Electric Power Company, Richmond, Va., that this group had organized seven subcommittees each to deal with essential problems. Also that excellent contacts had been established with the various national bodies of the automotive industry.

The highlights of the foregoing discussions were presented to the Managing and

Advisory Committee by the respective chairmen for discussion and action.

By direction of the committee, Chairman Gaidry wired a message pledging the support of the Section to President George S. Hawley and Managing Director Alexander Forward during the new Association year.

Flood-Damaged Lone Star Lines Repaired by Heroic Action

FIGHTING cold, hunger, fatigue and floods, employees of the Lone Star Gas Company in Texas performed outstanding jobs in repairing two severe leaks and three washouts in main gas lines late in October.*

Only one washout affected customers. This was at Rush Creek on Lone Star Gas Company's line about 1/4-mile south of Pauls Valley, Oklahoma, which cut off gas there as well as Paoli, Purcell, Maysville and Wayne. The two leaks occurred in adjoining lines on the southwest edge of Wynnewood in the Pauls Valley area. The other washouts were on Line A between Wichita Falls and Petrolia, and Line H between Petrolia and Chickasha. Line H went out under the onslaught of flood waters changing the course of a usually placid creek, while the Line A washout was caused when heavy flood waters undermined the line support.

Line A was repaired by Lone Star pipe line crews under the direction of Luther Tolbert, assistant pipe line superintendent; Fred Smith, foreman of the Petrolia Pipe Line District, and Joe Martin, foreman of Vernon Pipe Line District. Line H was repaired by men under Mark Black, foreman of the Oklahoma Pipe Line District, and Jim Martin, assistant foreman.

The Rush Creek washout south of Pauls Valley occurred between 2 and 3 A.M., October 30. It was reported by a farmer to J. H. Hodges, Pauls Valley District manager for Community Natural Gas Company. Hodges reported the trouble to pipe line men at Fox Field from where it was relayed to dispatchers in the Dallas headquarters office.

From that point action started, and in approximately 40 hours the washout had been repaired and gas was back in the line, and a short time later gas service had been returned to customers in all towns except Pauls Valley; this town had been under water and it was impossible for the emergency crews to cut off the meters. Pauls Valley, however, was returned to service shortly after the water receded.

Pipe line crews at Fox Field and Gainesville were sent to Pauls Valley and were

*This latest story of splendid accomplishment under stress, so typical of the gas industry, is told in fascinating detail by Bruce Cunningham in the November 12 special issue of "Blue Blaze News" which carries striking illustrations of gas men mired in mud from head to foot but cheerfully doing their work.

The general impression throughout the meetings was that a united section is actively coordinating its work in the light of today's affairs, and is cooperating to the best of its ability with its conferees in the Association and the industry. Enthusiasm and a will-to-work predominated.

ready to repair the washout when the water receded. Distribution employees were rushed from nearby towns to aid in the emergency. On word of the trouble, L. M. School, Denison Division superintendent for Community Natural, left to direct operations for the company.

Beale Gives National Defense Data



S. J. Beale

AN outstanding summary of material relating to "National Defense and the Gas Industry" was presented by S. J. Beale, general manager, West Gas Improvement Co., Inc., on November 13 at the annual meeting of the Mid-Southeastern Gas Association,

State College, Raleigh, N. C. Mr. Beale, who is a member of the American Gas Association's Committee on National Defense, has gathered and culled a great deal of information, largely from British sources, regarding utility operations under emergency conditions.

According to Mr. Beale, there are three main considerations in respect to the defense problem in this country and, in order of importance, they are: (1) Sabotage—act now; (2) Prepare now to safeguard gas supply before and in case the U. S. A. becomes engaged in warfare; (3) Additional preparations required should the U. S. A. become actively engaged in warfare. After reviewing the steps already taken, Mr. Beale warned his audience: "Whatever you do, don't be caught napping or you will pay a terrible price." Many expenditures made in the interests of defense will not be lost, he said, "but represent plain good peace time practice."

Of particular interest in Mr. Beale's paper were extensive quotations from outside authorities and a comprehensive list of material available on the subject.

*For a complete explanation of this method see the "Grease Method of Making Emergency Shut-Off of Small Low Pressure Mains" by H. B. Andersen, pages 258-260, July-August, 1941, A. G. A. MONTHLY.



Laboratories

GEORGE E. WHITWELL, Chairman

R. M. CONNER, Director

W. H. VOGAN, Supervisor, Pacific Coast Branch

BETTER BAKING THROUGH MAGIC EYES

Home Service Directors Cooperate in Establishing More Severe Oven Performance Tests

By MILTON ZARE

*American Gas Association
Testing Laboratories*

FROM a housewife's point of view, the most important characteristic of a domestic gas range is "How well does it bake?" In recognition of this fact, one of the first specifications adopted applying to gas ranges when the American Gas Association Testing Laboratories were established was a baking test. Many additional requirements such as speed of heating ovens to desired temperatures, limitation of surface temperatures of insulated ovens to insure cool gas range exteriors, and numerous others have also long been enforced. However, great importance has always been attached to a baking test which could serve as a reliable index for even oven heat distribution and thereby insure satisfactory baking results.

Basic Requirements Strengthened

As new high levels of construction and operation were attained, basic requirements for judging suitability of gas equipment for consumer use have been constantly revised and strengthened. This has been in line with established policy to keep approval standards abreast with new developments and improvements in design and performance. Largely as a result of manufacturers' individual efforts to improve their products and to comply with these standards, the last decade has witnessed marked advances. In addition to the smart streamlined appearance of modern gas ranges, some of the most outstanding achievements have been speed in performance together with reductions in gas consumption to do the same work. Contemporary ovens will reach a desired baking temperature in one-third less time than their predecessors of ten or fifteen years ago, with a corresponding reduction in the amount of gas to accomplish this task. Similarly, in view of refinements in insulation materials now available, and their application, baking temperatures may be maintained using one-third less gas. It may be readily seen that these improvements are of great value to consumers in point of time and economy.

Less obvious on first consideration, however, are the marked advances in baking characteristics of modern gas ranges. Based

on statistics on oven heat distribution tests conducted at the Laboratories, a higher percentage of models recently submitted for approval comply with current specifications than was the case five years ago. This indicates beyond any doubt that new models are now capable of meeting more stringent requirements. In view of this situation, a very complete investigation of various test methods for determining ability of a range to bake properly was conducted during the past three years with the object of improving and strengthening present standards. This was carried out by the American Gas Association Testing Laboratories at the instructions of the Subcommittee on Approval Requirements for Domestic Gas Ranges. Recommendations based on this study were adopted by this group and were ratified by the A.S.A. Sectional Committee, Project Z21, A. G. A. Approval Requirements Committee, at its recent meeting to become effective January 1, 1942.

Follow Home Service Suggestions

In order to encompass as wide a national perspective as possible in developing such revisions, the Laboratories included in its investigation, through the cooperation of the A. G. A. Home Service Committee, suggestions of many home service directors, as well as those of the Bureau of Home Economics of the U. S. Department of Agriculture. It was revealed that a large variety of heat distribution tests were being employed throughout the country. Cakes, cookies, biscuits, breads, and numerous other products were being prepared for the purpose of checking the baking performance of an approved gas range, the particular material employed depending largely on baking habits of consumers in their respective localities. From the Laboratories' standpoint it was necessary to select from them those which would adequately cover extreme conditions of test. It was further necessary to select those which lend them-

selves to standardization so that by following a given procedure and employing commonly available ingredients, results could be reproducible not only at the Association's Laboratories but in any laboratory throughout the country.

To eliminate as much as possible the human element in judging baked products so that results obtained one day could be positively compared with those obtained on another, the Laboratories designed a special photoelectric reflectometer incorporating use of photoelectric cells (so-called "magic eyes") to judge color reflectance. This apparatus and its method of use, is fully described in the July-August, 1940, issue of the American Gas Association MONTHLY in an article entitled "Method of Evaluating Color Variations of Baked Food Products" by W. B. Kirk of the Laboratories' staff. Being many times more sensitive than the human eye, it reveals color differences in baked products that are not at all apparent to the individual making the test. In addition, it is readily standardized and calibrated, thus making all results reproducible.

Baked Products Evaluated

With use of the photoelectric reflectometer, many different baked products were compared and evaluated at the Laboratories. From results obtained, it was readily concluded that many of these did not lend themselves to standardization. Fruit pies, for example, were not found to be a satisfactory media because ingredients employed varied a great deal from one day to the next. Thus it was difficult to prepare them in the same manner from one time to another. Likewise, they were difficult to evaluate according to color. Similarly, previous Laboratories' experiences with biscuits indicated that they are much less sensitive to oven heat distribution than cookies. Nearly 30% of the ranges producing satisfactory biscuits would not bake satisfactory cookies following current requirements.

After an extensive investigation, two products were selected which it was felt satisfactorily embodied the most critical features covered by the various recipes employed by home service departments and

other agencies. These were cookies and vanilla layer cakes. To meet the cooky test, cookies baked in an oven heated to 375° F. must be evenly browned in eleven minutes. In judging them, the photoelectric reflectometer is employed. No point on either top or bottom surface of all cookies must exceed more than 62%* nor have less than 20% reflectance. This is a range of 42% which is well within limits of acceptability as judged with the human eye. In addition, over-all range of reflectance between top and bottom surfaces must not exceed 31% and over-all reflectance of all cooky tops must not exceed 18%.

Since it is believed that the recipe¹ for cooky dough to be used in this test is of general interest, it is given below.

70.6 grams (6 tablespoons) Hydrogenated Vegetable Oil Shortening
153.0 grams (¾ cup) Granulated Sugar
48.0 grams (1 egg) Egg
7.5 cc. (1½ teaspoon) Milk
1.36 grams (¼ teaspoon) Salt
145.0 grams (1½ cups) Sifted Soft Wheat Cake Flour
3.18 grams (1 teaspoon) Retarded-Action Baking Powder
2.5 cc. (½ teaspoon) Vanilla

Cookies Are Reliable Index

Cream the fat and add the sugar, creaming while adding. Add the well-beaten egg and the milk. Then add the dry ingredients which have been sifted together. Finally, add the vanilla.

Cookies require only a comparatively short baking time in a heated oven. In this respect they are similar to biscuits and shortening breads. Covering that period of operation in which a relatively large amount of heat is being furnished to bring the oven up to equilibrium baking temperatures, they therefore afford a reliable index of temperature overshoot and oven heat distribution during this period.

Cakes on the other hand, test oven heat distribution under equilibrium conditions. Representing a large mass of material that must be heated up internally as well as externally, they require a longer baking period, most of which takes place after the oven has attained static temperature conditions. Under the test procedure adopted, four cakes are baked at the same time. While this does not correspond to common practice where only two layer cakes are normally made, it represents an extreme test condi-

tion. Obviously, if an oven will comply with such severe tests, products baked under more favorable ones would be satisfactory to consumers.

It is of particular interest to note that the cake recipe employed is one approved by the Bureau of Home Economics of the U. S. Department of Agriculture. Repeated tests have proved it thoroughly reliable. Together with use of the photoelectric reflectometer to evaluate the finished baked products, it thus affords a positive means for judging oven heat distribution under prescribed baking conditions. It is required that no point on either top or bottom surface of the four cakes baked at 375° F. for twenty-five or thirty minutes shall have more than 58% nor less than 25% reflectance. Although this represents a range of 33%, the over-all range of reflectance must not exceed 26%. In addition, the range of reflectance readings for cakes from any one rack must not exceed 18%. The recipe² employed for cake batter used in this test is given below.

185 grams (1 cup) Hydrogenated Vegetable Oil Shortening
10 cc. (2 teaspoons) Vanilla
400 grams (2 cups) Granulated Sugar
192 grams (4 eggs) Egg (without shells)
352 cc. (1½ cups) Milk
425 grams (4¼ cups) Sifted Soft Wheat Cake Flour
16 grams (4¼ teaspoon) Retarded-Action Baking Powder
5 grams (1 teaspoon) Salt

All ingredients shall be at room temperature. Ingredients shall be weighed and measured before mixing. Baking powder and salt shall be added to flour, sifted together 3 times, and divided into 3 portions. Milk shall be divided into 2 parts. Bottoms of pans shall be greased.

A 3-speed mixer³ equipped with an off-center flat beater shall be used in all mixing operations. High speed shall provide 600 rotations per minute; medium, 325 per minute; and low speed, 250 per minute. Mixing of all ingredients shall be done in a mixing bowl 8 in. in diameter and 6½ in. deep.

Put shortening and vanilla into mixer bowl. With beater operating at high speed, add sugar gradually over a period of 1 minute. Stop mixer and scrape sides of bowl. Beat 1 minute longer at high speed. Turn to medium speed, add unbeaten eggs gradually over a period of 1 minute. Stop mixer, and scrape bowl and beat 1 minute longer at medium speed. Stop the mixer and scrape the bowl. Turn mixer to low speed, adding ⅓ of the dry ingredients over a period of 20 seconds, and ½ the milk over a period of 30 seconds. Stop the mixer at the end of the second addition of flour, scraping down the sides quickly. At the end of the third addition of flour, stop the mixer, scrape down the sides of the bowl, turn to medium speed and beat 10 seconds longer. Pour the batter quickly into the pans, smoothing evenly, and rap each

pan sharply 3 times on the table to remove air bubbles.

When removed from the oven, allow cakes to stand in the pans for 3 minutes, then turn out on cake coolers.

It may be readily seen that both cooky and cake batter recipes specify exact weights and volumes of ingredients employed requiring use of sensitive scales and measuring devices. This has been necessary in order to insure reproducible results in test operations. Moreover, with the use of a photoelectric reflectometer it is all the more important to employ standard recipes. Through the medium of these recipes and procedures included in the new requirements, any manufacturer or agency desiring to do so may readily duplicate these tests and obtain comparable results. They provide a reliable index for determining the baking qualities of a range and for that reason have already received the backing of a large number of leading home service directors. Their adoption and use throughout the country should do away with instances previously encountered where varying baking performances were obtained by different persons due to lack of uniformity of recipes employed and testing procedures followed.

Without doubt these new tests represent a marked step forward toward improving general baking characteristics. As they constitute a severe test under practical working conditions, it is readily seen that ovens complying with them will undoubtedly produce more satisfactory baking results in the hands of consumers. Since the new procedures become effective January 1, 1942, it is believed that substantial improvements will soon make themselves apparent to the millions of consumers now dependent on gas ranges for their daily needs.

A Survey of Gas Summer Air Conditioning

A LIMITED number of mimeographed copies of report No. 938A entitled, "A Survey of Gas Summer Air Conditioning," are now available. It was prepared by the A. G. A. Testing Laboratories as part of the research project in gas summer air conditioning being carried on at the Laboratories. It was edited and approved by the Technical Advisory Committee on Gas Summer Air Conditioning Research and approved for release by the Joint Committee on Summer Air Conditioning.

It is an authoritative condensation of the present status of this growing and important development in the gas industry. It is based on a survey conducted by a Laboratories' representative during May, June and July, 1941, in the territories served by 15 gas companies and at the plants of seven manufacturers of gas summer air conditioning equipment.

Chapter headings include: Importance of Summer Air Conditioning Load to the Gas

*For discussion of reflectance factors see article, "Method of Evaluating Color Variations of Baked Food Products" by W. B. Kirk, American Gas Association MONTHLY, July-August, 1940.

¹"Spry" shortening, "Softasilk" flour and "Calumet" baking powder are among ingredients employed at the Testing Laboratories. They are mentioned merely for the purpose of standardization and not as an indication of merit over competitive products.

²"Spry" shortening, "Softasilk" flour and "Calumet" baking powder are among ingredients employed at the Testing Laboratories. They are mentioned merely for the purpose of standardization and not as an indication of merit over competitive products.

³A Model K4 Kitchen Aid mixer with flat beater may be employed.

Industry, Study of Markets, Gas Summer Air Conditioning Equipment, Cost Comparisons of Competitive Equipment, Development and Provision of Equipment by Manufacturers, Activities of Some Gas Companies in Air Conditioning, Interpretation of Survey and Recommendations, and an extensive bibliography.

This report may be obtained from the American Gas Association Testing Laboratories, 1032 East 62nd Street, Cleveland, Ohio, at \$2.00 per copy plus postage.

Wedding Bells Ring



Wedding bells rang in November for Herb Vogan, manager of the Pacific Coast Branch of the American Gas Association Testing Laboratory in Los Angeles, and Miss Thelma Shomler, of Santa Monica, shown above at the marriage bureau in Los Angeles. The bride is also a member of the gas industry, having served for several years as secretary in the publicity department of Southern California Gas Company. Vogan has been with the Testing Laboratory for 13 years, coming to Los Angeles from the Cleveland Laboratory in April, 1939. He and Mrs. Vogan will make their home in Glendale.

Moore Robinson Dies

FRIENDS of Moore Robinson of the American Gas Association Testing Laboratories will regret to learn of his death on October 19, following a short illness. He had been employed continuously in the Maintenance Department since May 1926. Highly popular with his co-workers as well as visiting manufacturers and utility men, his cheerful personality and Irish wit will be greatly missed by all those who knew him.

Mr. Robinson was born in Belfast, Ireland, in 1897 and came to the United States approximately 18 years ago. He is survived by his wife Jean and 14-year-old daughter, Peggy.

LONG-TERM RESEARCH

(Continued from page 437)

way from relatively restricted problems to such gargantuan ones as how to make money in the gas business. Many of them do not lend themselves to research, of course, but the number and scope of the problems which can be tackled on a long term basis is tremendous. No single agency can begin to cover the field, especially not for \$100,000 a year.

Now that the Institute is beginning to function, we may expect coordination of research to benefit the industry immediately. I see every reason to expect the finest degree of collaboration between it and the Cleveland staff. Out of it I fully expect will come a comprehensive joint suggestion for much needed utilization research which we need now and which could be programmed within the capacity and facilities of the Cleveland Laboratory. Would it be expecting too much to ask the Association to finance that activity?

I think not; in fact I think the very knowledge that our research efforts are being coordinated to the fullest extent will encourage rather than retard interest and support of the industry.

Let me suggest that the Institute and its program merits your support for the results we will need after the emergency is over and when we are attempting to adjust ourselves and our industry to new conditions. Let me appeal to your current support of an enlarged program of utilization research to be continued at Cleveland. We need those results as quickly as they can be obtained.

Gas Customers Rise

CUSTOMERS served by manufactured and natural gas utilities totalled 18,170,200 on August 31st, an increase of 605,500 over the number reported on the same date a year ago, according to figures released by the A. G. A. statistical department.

Statement of the Ownership, Management, Circulation, Etc., Required By the Acts of Congress of August 24, 1912, and March 3, 1933

Of American Gas Association Monthly published monthly, except July-Aug. which is combined, at Brattleboro, Vt., for October 1, 1941.

State of New York, County of New York, ss.

Before me, a Notary Public in and for the State and county aforesaid, personally appeared James M. Beall, who, having been duly sworn according to law, deposes and says that he is the Editor of the American Gas Association Monthly and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, as amended by the Act of March 3, 1933, embodied in section 537, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, American Gas Association, Inc., 420 Lexington Ave., New York, N. Y.; Editor, James M. Beall, 420 Lexington Ave., New York, N. Y.; Managing Editor, None; Business Managers, None.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.)

American Gas Association, Inc., 420 Lexington Ave., New York, N. Y.; President, T. J. Strickler; Vice-President, George S. Hawley; Treasurer, E. R. Acker; Managing Director, Alexander Forward (all of 420 Lexington Ave., New York, N. Y.).

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the twelve months preceding the date shown above is . (This information is required from daily publications only.)

JAMES M. BEALL, Editor.

Sworn to and subscribed before me this 22nd day of September, 1941.

(Seal)

LAWRENCE P. BROWN,
Notary Public, Queens Co. No. 198, Reg. No. 5181
Cert. filed in N. Y. Co. No. 149, Reg. No. 3-2-109
Commission expires March 30, 1943

SORBY ON APPLIANCES

(Continued from page 447)

tity cookery and gas fit into modern living habits was brought out by Mr. Sorby. Pointing out how people on automobile trips have to eat in first one town and then in another, he declared that restaurants of quality can all develop good business, and that a good cup of coffee is the foundation of a reputation as a good restaurant.

As the presentation reached its peak, five stunning girls suddenly made their appearance, each carrying a star that showed the amount of a particular popular food which is served yearly in restaurants and hotels—65,000,000,000 cups of coffee for instance. As a fitting climax, these girls suddenly turned their stars and there stood, in plain English, five of the twelve sales points that all should remember as a basis for promoting the new counter gas cooking appliances and incidentally the new heavy duty gas cooking and baking equipment too.

These twelve are: "Educate Yourself" . . . "Educate Equipment House Salesmen on Gas Counter Appliances" . . . "Educate These Men To Know the Correct Pipe Sizes" . . . "Sell Them on Your Installation Methods" . . . "Plan for Intelligent Mail Campaigns" . . . "Display" . . . "Conduct Demonstrations" . . . "Shows" . . . "Window Displays" . . . "Co-operate" . . . "Work With Local Chefs" . . . "Enlist Home Service."

At the end of this unusual presentation the audience gave Mr. Sorby a rising cheer. E. D. M.

GAS AT METAL EXPOSITION

(Continued from page 447)

automatic turn-down of 25 to 1. They showed furnaces keeping constant 2400° temperature with gas at normal pressures and no air blowers. They showed many kinds of gas torches that produced intense flames for many special uses. Burners, 10 feet long, where the flame could be chased from one end to the other by the turn of a knob, air heaters of immense capacities for placing on top of big furnaces for convection heating, as well as smaller complete convection furnaces, were all in operation.

The new direct radiant gas "bowls" were featured in an ingenious revolving tilted furnace roof, as well as in other locations, to show the flexibility allowed in installing them exactly where heat is needed. Large, continuous atmosphere furnaces; modern tempering furnaces; automatic proportional mixing machines for precise combustion; all were among the equipment paraded before the thousands of visitors. And to show that gas and gas equipment can live up to the boast of "wherever heat is used in industry" there were nearly 250 different types and sizes of industrial gas burners and burner heads on display.

Seventy men worked day and night during the week in the A. G. A. Combined Industrial Gas Exhibit, making contacts, ex-

plaining equipment and processes, taking orders, and noting prospects.

A special feature of the A. G. A. Combined Industrial Gas Exhibit this year was the special control exhibit. Here were effectively grouped indicating and recording gas controls of the leading manufacturers, selected for their applicability to industrial gas furnaces being built for use in national defense factories.

Thursday of National Metal Congress and Exposition week was officially designated as Industrial Gas Day. The day started with the Annual Industrial Gas Breakfast, held at the Benjamin Franklin Hotel. Featured speakers were Hudson W. Reed, executive vice-president, The Philadelphia Gas Works Co.; James R. French of the International Nickel Co., vice-president, American Society for Metals; and George F. B. Owens, chairman, Industrial & Commercial Gas Section, American Gas Association. Short talks were made by H. Carl Wolf, retiring chairman of the Industrial & Commercial Gas Section, and Philip C. Osterman, chairman, Industrial Equipment Division, A.G.A.E.M. Frank H. Trembly presided, and 123 industrial gas men and equipment manufacturers attended.

The Metal Treating and Melting Committee of the Industrial & Commercial Gas Section met on Industrial Gas Day, the meeting being presided over by Chairman Robert C. Le May, of The Connecticut Light & Power Co.

The "Symposium on Furnace Atmospheres" was the feature of the National Metal Congress on Industrial Gas Day.

This was the sixteenth year of the A. G. A. Combined Industrial Gas Exhibit at the National Metal Congress & Exposition. The exhibit was organized under the supervision of the following committee: Frank H. Trembly, Jr., chairman, The Philadelphia Gas Works Co.; Eugene D. Milener, American Gas Association, director of exhibits; Lawrence E. Biemiller, Consolidated Gas Electric Light & Power Co. of Baltimore; F. T. Brooks, Philadelphia Electric Co.; George J. O'Neill, Pennsylvania Gas & Electric Co.; H. A. Sutton, Public Service Electric & Gas Co.; Carl Wierum, The Brooklyn Union Gas Co.; and Theodore J. Taylor, The Philadelphia Gas Works Co.

NATIONAL HOTEL EXPOSITION

(Continued from page 448)

and humidity discharge into kitchens . . . Magic Chef's new "gear-shift" mechanism with five broiler settings . . . Garland's "all-hot" cooking top.

Other exhibitors, close to the A. G. A. Combined Exhibit, also made news on the gas-fired food service equipment front. Among these, especial attention was won by: Masterchef Products' counter Roto-Broiler employing the infra-red ray principle . . . Savory's gas-fired toasters and frankfurter roll warmers . . . the Wels-

bach Hotzone broiler griddle with infra-red ray burner . . . the Alpha immersion-type sterilizer . . . and numerous thermostatically controlled coffee urns of advanced design and great eye appeal.

Another feature of the National Hotel Exposition was a contest for the best recipe for barbecued meats and sauces, sponsored by the Societe Culinaire Philanthropique, with well known chefs on the judging committee. In cooperation with the Societe, Masterchef Products, Inc., offered one of their Roto-Broilers as prize.

An exhibit by the New York Food Trades Vocational High School attracted a continuous crowd, who watched the young cooks and bakers at work. On the job were a gas-fired deep fat fryer, confectionery stove, and a Blodgett individually controlled deck bake oven. Eight hundred future cooks and bakers are trained yearly in this Board of Education project, particularly timely because of a shortage of cooks for national defense purposes.

Thirteen national food and food service groups gathered in New York during the Exposition.

The combined gas exhibit was planned by an A. G. A. committee composed of D. J. Brogan, J. J. Droscher, W. C. Guthrie, James F. Pitman, Charles A. Young, and Eugene D. Milener.

Personnel Service

SERVICES OFFERED

Coal preparation engineer and chemist, immediately available. Long, varied experience in consulting and analytical work for large corporations. Exceptional ability in research, development, etc. Experienced in technical writing. Excellent references. Well known in bituminous coal industry and engineering societies. Salary, commensurate with position and location. Married. (43). 1429.

Available immediately—college graduate with 11 years' experience in all phases on the manufactured gas industry—seven years in plant production, distribution and management with last four years spent with leading water heater manufacturer. (33). 1430.

Financial, Treasury or Administrative position desired where over twenty years of broad experience can be utilized. Successful record in complex management and financial problems of utility operating, holding and service companies. Active supervision of financial, treasury, accounting, insurance, purchasing, personnel, corporate and operating procedure. Adaptable; married (40). 1431.

General Superintendent with many years successful operating experience, on combination gas and electric properties, is desirous of making a change. Complete information as to qualifications and references on request. 1432.

Salesman—interested in lucrative proposition. Twenty-five years stove and heating experience, contacting utilities, wholesale, retail and consumer trade. Capable sales promoter and department manager. Have covered eastern and southern areas. Will travel any territory. 1433.

House Heating Expert—young married man thoroughly experienced in sales, engineering, and installations of gas heating and air conditioning systems, desires position—preferably with utility company. Has had 11 years' experience with the largest manufacturer of gas heating and air conditioning equipment and 3 years with utility company (37). 1434.

As Salesmanager salesman, purchasing agent, or factory representative. Twenty-three years' experience in practically every branch of the companies in greater New York. 1435.

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